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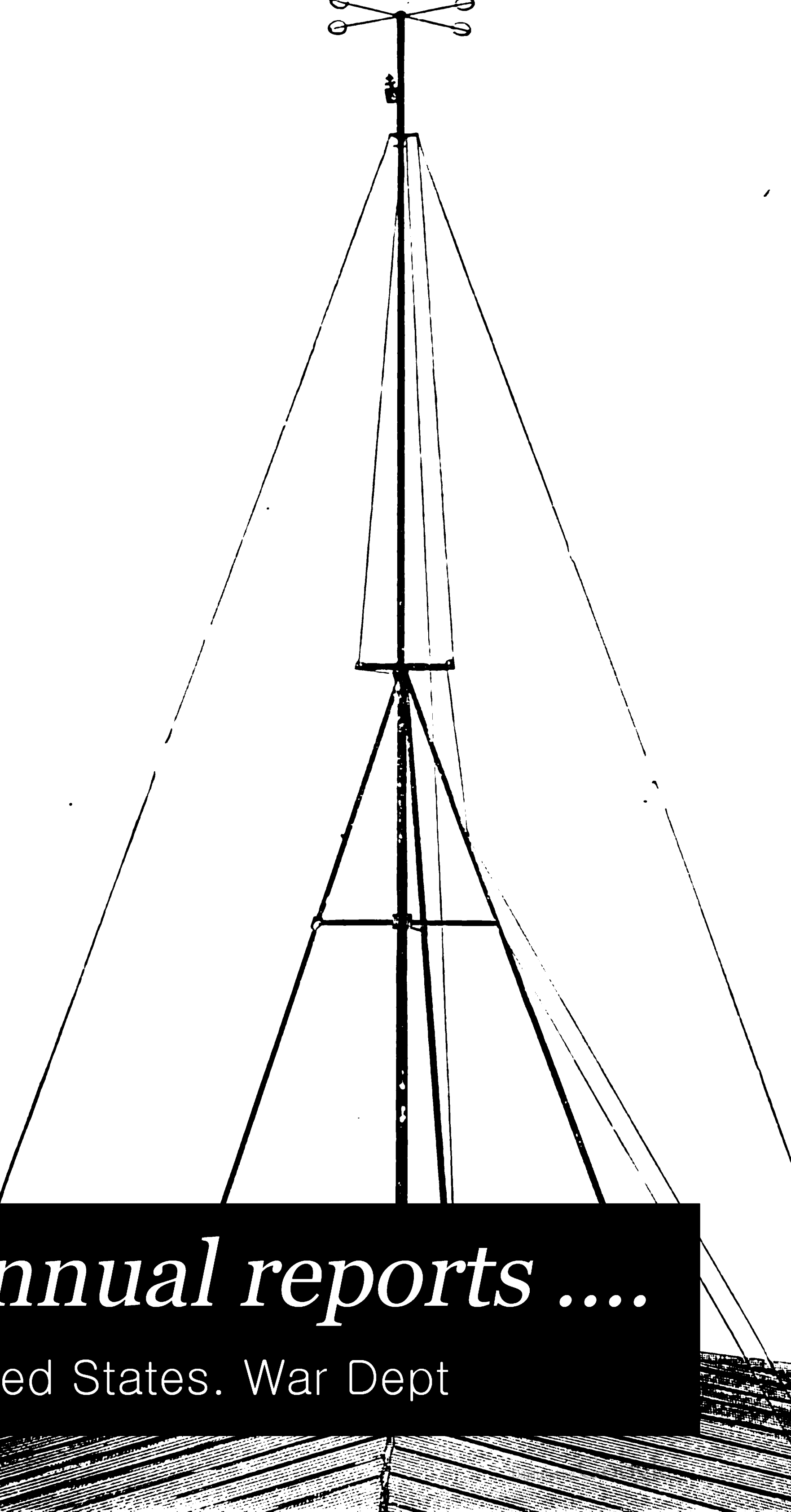

nnual reports ....

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ss without any recommendation on the part of this Depart-
show that the total expenditures are largely in excess of the
bsolutely necessary for the actual requirements of the Army

specially to this subject in order that it may be understood
eat part of the money appropriated for this Department by
is for expenditures similar to those named, and should not be
l as required for the support of the Army, but arises from the
osed upon the military branch of the Government in the execu-
rks of internal improvement, for the benefit of the people.

of March 3, 1873, for the establishment of a military prison,
ppropriation to meet any of the expenses necessary to carry it
. In order, however, that no time might be lost, a preliminary
nposed only of Army officers, was constituted to collect infor-
d material for commencing more definite labor upon the plan
Congress should appropriate the means. This board, in its
ions, has succeeded in doing even more than was anticipated;
nately, two gentlemen from civil life, who have devoted much
zealous study to the subject of reformatory prison discipline,
found willing to give a share of their time gratuitously, until
priation shall be made, to the work of preparing a plan and
s for the military prison. This has enabled me to carry out
ions of the second section of the act, by appointing the board
escribed. Their report will form the subject of a future special
ation to Congress.

y difficult, under existing laws, to supply the Army with field-
, two of which are allowed to each company. As this is an
art of the military establishment better facilities for obtaining

apparent was it during the past fiscal year that the appropria-
r barracks and quarters would not admit of any expenditure from
propriation beyond the payment of rent of offices and hire of
s for troops, that it was found necessary early in the spring to
y arrest any work upon the repair and construction of barracks
arters. Notwithstanding this necessary and sharp measure,
involved much inconvenience to the troops, crowded into build-
uch in need of repair, or cantoned in tents and huts too much
d to the inclemency of the weather, the liabilities have to a small
t exceeded the sum appropriated.

necessary that I should ask the attention of Congress to the dif-
es of keeping accounts, and of paying for supplies and services,
arise under the operation of the act approved July 12, 1870. The
its operation requires every disbursing officer to keep a separate
istinct set of accounts under every head of appropriation, and to
a balance of money on hand to meet the demands under each
thereby compelling officers to keep to their credit at depositories
larger balances than heretofore. A remedy for this is to make
propriation for the Quartermaster's Department under one head
ingle appropriation, requiring, as now, that the estimates upon
the appropriation is based shall be submitted in detail. No ben-
arise in practice from the system of keeping separate heads of
riation in this Department, while its existence gives many occa-
r error and mistakes, and is a burden upon the officer who is
d to disburse the public money, as well as upon the Treasury.
ls of the present system are fully set forth in the report of the
tee on Expenditures in the War Department, made to Congress
st session.

any lieutenants of the line are often required to assume the
nd responsibilities of acting assistant quartermasters, it is
nded that an allowance of $10 per month be made by law to

he expenditure of the money, and that the small force that
ter be required at that place could, economically, be provided
ed or leased buildings. I recommend that the sum appropri-
ed for the rent or purchase of such sites of posts in Texas as
und to be actually needed for military purposes.

ort of the Commissary-General shows that the average cost of
-ration for the year has been seventeen cents and forty-eight
s, showing a trifling increase in cost over that of the previous

ommended that an act be passed authorizing the issue of to-
enlisted men of the Army, as a component part of the Army-
near as may be in amount to that authorized to be sold to

the act approved March 3, 1873, to provide for the better care
ection of subsistence supplies, there have been appointed one
and forty-nine commissary-sergeants, who have been assigned
ry posts. A considerable number of them have been in the per-
of their duties a sufficient time to evidence to the Department
fit that was anticipated from a body of experienced and worthy
missioned officers being in charge of this class of public prop-

urgeon-General reports the following distribution of the first
he Medical and Surgical History of the War, viz:

ngressional committees as specimens	12
tors	1,000
esentatives	2,000
ry of Congress	50
and imperfect copies	70
ed by Surgeon-General's Office	1,868
l number of copies printed	5,000

cond part of the work is now going through the press as rapidly
le.

commendation made in former years is renewed, that the cata-
l tablets of the anatomical section of the Army Medical Museum

es against deterioration, whether from bridging or other
n the geodetic and hydrographic survey of the lakes; upon
the defenses of the coasts; upon military surveys and recon-
in the interior; upon geographical and geological explora-
n public buildings and grounds in the District of Columbia;
onstruction of light-houses, and upon the demarkation of the
between the United States and Great Britain.

ks projected and approved for the modification and strength-
our sea-coast defenses and fortifications have been advanced
pidity consistent with economy and efficiency, and the works
incipal harbors now contain quite a number of platforms ready
armaments of guns of the largest calibers. Heavy guns
in covered positions, along the shores of the inlets to our har-
st always be the basis of any successful defense, and the works
l and in course of construction should be prosecuted to comple-
l be suitably armed.

attalion of Engineers numbers 308 enlisted men, and is stationed
ilitary Academy for instruct on of cadets, and at Willet's Point,
ork Harbor, where it forms the school of torpedo defense of the
ls to our harbors, and the guards and workmen for the care and
ation of engineer-equipments. During the past summer a num-
letachments have served with advantage in the geographical and
ic explorations. The appropriations asked for the engineer depot
st are recommended to Congress, and the recommendation for
hief musician and two principal musicians for the battalion ap-
d.

th the small appropriations granted for trials with torpedoes,
nvestigations upon this subject have been continued, to the benefit
r system of submarine mines. This accessory for the defense of our
ors in recent years has developed into one of great importance
g the maritime powers, and to investigate the recent electrical
ods and systems of torpedoes, as well as to procure certain materials,
fficers of engineers were sent during the summer to Europe. The
ts of their mission are the collection of valuable information on
subject, and a saving of expenditure to the Government.

e river and harbor improvements mentioned in my last annual re-
have been continued, and the works and surveys connected there-
have been carried on during the past year with vigor. Detailed
mation in regard to each specific improvement, and the results of

ction of bridges, my attention has been called to the fact
bridges have been built, and that one is now being con-
ross navigable waters of the United States without any
f law; and further, that certain parties claim the right to
that one of those parties is now constructing a bridge under
laimed to be derived from acts granting right of way for
hrough public lands and granting lands to aid in the con-
f a road chartered by State authority. In view of the pro-
the more recent acts of Congress requiring the Secretary of
aintain a supervision over the location and construction of
ossing navigable waters of the United States, in order that
sts of navigation shall be protected, I feel it my duty to invite
ion of Congress to this subject and to suggest such general
as may be deemed necessary for the preservation of the great
hannels of commerce.

connection I have respectfully to recommend that the act
ng the construction of a bridge across the Arkansas River at
ck, Arkansas, approved May 31, 1872, be repealed, for the rea-
a bridge constructed in compliance with its terms would mate-
struct and impair the navigation of the river. A previous act
ress (that of July 1, 1870) contains all the provisions for bridg-
river at Little Rock essential to the preservation of the channel.
urvey of the lakes has been continued with success during the
The survey of Lake Michigan has been pushed forward nearly
letion, and that of the Saint Lawrence River has been extended
o Lake Ontario. Other portions of the survey are in satisfac-
gress; new surveys of special localities have been made, the
of important points determined by telegraph; assistance to
graphical and geological survey of adjacent States rendered;
orological and lake-surface observations continued through the
ke region.

ain field operations of the geological exploration near the
parallel, between the Sierra Nevada and eastern slope of the
ountains, were completed in November last, and the maps and
re being prepared for publication at an early day. Special ex-
ns, giving important results, have been made of noted geologi-

rmal preliminary action of the city authorities of Port Huron
et been completed.

ort of the Chief of Ordnance calls attention to the many po-
ments so often presented in favor of the repeal of the law pro-
promotions in the corps which he represents. He refers to the
and humiliation to which officers of merit and long service
n subjected since the passage of that law, by being deprived
leserved promotion, the only reward held out in their profession
s of duty well performed. Their claims to promotion appeal
to the attention of Congress.

rd of experienced officers, of which Gen. A. H. Terry was
t, was convened in September, 1872, for the selection of a
oading system for the muskets and carbines of the military serv-
ter an exhaustive trial of all the systems presented, the board
the Springfield breech-loading system as the one, of all those
before it, which is best calculated to meet the demands of our
service.

port of the board was approved, and the Springfield system of
oader will henceforth be used for the muskets and carbines of
y. At the same time the caliber of all small-arms for the serv-
es, carbines, and revolvers—has been fixed at .45 of an inch.
a question of grave importance whether new arms of the ac-
ystem shall not be made at once in sufficient quantities for a
supply in case of war, and to this end an appropriation of
has been asked for the next fiscal year for the manufacture,
with the materials now on hand, of about 35,000 arms.

nnual appropriation of $200,000 for arming and equipping the
an amount fixed by Congress during the early part of the cen-
now found inadequate, by reason of the great increase of popu-
o supply the wants of the whole body of the militia, and it is
recommended that the appropriation for that purpose be in-
in a manner proportioned to the increase of the population
passage of the act of 1808, providing for the distribution of

endation made for its disposal as a part of the public domain.
nt to such recommendation the exigencies of the service re-
at the property should be used by the Quartermaster's Depart-
military purposes, and the period when such necessity shall
exist is very indefinite. Under these circumstances the repeal
ch of the act of June 10, 1872, as relates to the sale of this
is recommended.

ortion of the same act which directs the sale of the Apalachi-
nal should, in my opinion, be repealed, for the reason that the
was granted to the State of Florida in 1870, by the act ap-
December 15 of that year, under the name of the Chattahoochee

Department feels much embarrassment arising from conflicting
founded on alleged infringements of patent-rights in the con-
on of breech-loading guns at the national armory. Officers of
lnance Corps, in the execution of their official duties, are seriously
d by private actions for damages, instituted by persons claiming
l valid patents which have been infringed in the productions of
vernment armory, and some legislation seems to be required in
to enable the Department to dispose of the claims.

fifth section of the act of July 12, 1870, which provides "That
ances of appropriations contained in the annual appropriation
nd made specifically for the service of any fiscal year, and remain-
expended at the expiration of such fiscal year, shall only be
l to the payment of expenses properly incurred during that year,
he fulfillment of contracts properly made within that year, and
alances not needed for the said purposes shall be carried to the
s fund: *Provided*, That this section shall not apply to appropria-
nown as permanent or indefinite appropriations," is injurious to
terests of the Government where permanent buildings are to be
l, and appropriations for this purpose should be allowed to run
ree years instead of one, as now limited by that act. It s recom
d that the act be modified accordingly.

ematic and continuous instruction of the Army in military signal-
d telegraphy has continued during the past year at the school of

ated for that purpose, and to connect the same with such points be necessary for the proper discharge of the duties of the signal by means of a suitable telegraph-line, in cases where no lines are ation. The plan in contemplation proposes the establishment of stations at life-saving stations and light-houses along the ocean- f New Jersey, from Sandy Hook to Cape May, a distance of five miles from each other. A line connecting the stations at ing stations and light-houses along the coast from Norfolk, Va., e Hatteras, N. C., a distance of one hundred and thirty-seven and on one of the most dangerous coasts of the United States, is constructed. It is expected that the above-mentioned lines will npleted during the present year.

ascertained comparative accuracy of the deductions from reports "probabilities" has been more clearly presented in this than in ding years. The percentage of verifications has been mathemati- computed for each of the geographical districts mentioned in the ts. With a more rigid and scrutinizing mode of calculation than efore adopted, the percentage of verification has improved. The sis of the year's work indicates clearly, at once, the wisdom of ju- usly increasing the number of stations.

e Department acknowledges, as in previous years, the general sup- of the popular opinion of scientific men, and of the press, in its ef- to successfully carry on this work. Errors have occurred, but it een generally recognized as inevitable that some must occur in the nt condition of science. The great utility of the work is no longer ted. It has achieved results, the promise of which, a few years ould hardly be hoped for.

is mentioned in connection with this subject that arrangements been made with the meteorological officers of Russia, England, and ey, to commence on January 1, 1874, an exchange with the United s of the daily reports taken simultaneously at the different stations ghout the great extent of the Russian and Turkish Empires, the h Islands, and the United States. The co-operation of the systems ier nations is expected.

annual inspection of the affairs of the Military Academy and Corps dets, in June last, disclosed a very creditable state of discipline, n attention to study very commendable in the cadets.

e of the effects of the act of Congress approved February 2, 1872, sing the congressional representation of the several States, was rease the Corps of Cadets from 293 to 342. This is of marked ad-

om illness or other cause the Secretary of War is obliged to
rily absent, there is no person in the Department authorized
sign the money requisitions upon the Treasury and other pa-
sary for its current business. In almost all the other Depart-
he Government one or more assistant secretary is provided by
s authorized to perform such duties in the absence of the head
partment. There is no assistant secretary for the War Depart-
d in order that inconvenience to individuals as well as to the
ent may not arise from delay caused by such absence, I recom-
passage of a law which will permit the Secretary of War to
the chief clerk, in case of illness or other temporary absence
ead of the Department, to sign requisitions and other papers
necessary for immediate signature.

refer to the fact that by joint resolution of Congress the Sec-
f War was required to appoint a competent person to arrange
pare for publication the official documents relating to the rebel-
the operations of the Army during the war, and to submit a
said publication and estimates of the cost thereof to Congress
hen next session. A person was appointed to assume this work,
as to receive a compensation of $2,500 per annum. Although
pointment was made at that time, no acceptance was filed, and no
was taken toward the arrangement and publication of the records.
he appointment, under previous legislation, cannot now be made,
reason that the act prescribed that payments should cease in
ears after its passage, this legislation should be revived and the
ary of War authorized to make the appointment. This is a great
al work, of much historical value, and constant daily observation
xperience renders it evident that early steps should be taken to col-
nd prepare these vast and important materials for publication.

WM. W. BELKNAP,
Secretary of War.

be added by way of history of the events during the past

rts of all the department commanders, with the exception of Department of Columbia, not yet received, are also herewith

of the Army is under my immediate control, and the existing ulations devolve on the Secretary of War the actual command litary peace establishment, and all responsibility therefor, so bear making any further recommendations or report.

ave the honor to be your obedient servant,

W. T. SHERMAN, *General.*

V. W. BELKNAP,
Secretary of War.

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howing the organization and strength of enlisted men in the Army, compiled from returns received at the Adjutant-General's Office up to October 31, 1873.

FIRST REGIMENT OF CAVALRY.

ies, &c.	Enlisted men present and absent.	Date of report.	Station.
ters		Aug. 31, 1873	Benicia Barracks, Cal.
issioned l band.	15	do	Do.
	73	do	Do.
	66	do	Fort Klamath, Oreg.
	63	do	Camp McDermit, Nev.
	64	do	Benicia Barracks, Cal.
	57	do	Fort Lapwai, Idaho.
	53	do	Fort Walla-Walla, Wash.
	54	do	Camp Harney, Oreg.
	50	do	Do.
	54	do	Camp Halleck, Nev.
	62	do	Camp Harney, Oreg.
	59	do	Fort Walla-Walla, Wash.
	56	do	Do.
	25		100 recruits left Saint Louis Barracks March 4, 1873; 75 joined.
	2		Recruits left Saint Louis Barracks August 16, 1873.
	7		Recruits left San Francisco July, 1873.
	4		Musicians left Saint Louis Barracks September 18, 1873.
	100		Recruits left New York City October, 1873.
			100 recruits ordered October 21, 1873.
al	864		

SECOND REGIMENT OF CAVALRY.

arters		Aug. 31, 1873.	Fort Sanders, Wyo.
nmissioned and band.	21	do	Do.
	67	do	Fort Fred Steele, Wyo.
	66	do	Camp Brown, Wyo.
	63	do	Omaha Barracks, Nebr.
	65	do	Camp Douglas, Utah.
	70	do	Fort Laramie, Wyo.
	58	do	Fort Ellis, Mont.
	59	do	Do.
	59	do	Do.
	69	do	Fort Sanders, Wyo.
	67	do	Fort Laramie, Wyo.
	56	do	Fort Ellis, Mont.
	60	do	Omaha Barracks, Nebr.
	72		100 recruits left New York City July 29, 1873; 28 joine
	11		Unassigned recruits.
	2		Musicians left New York City October 21, 1873.
tal	865		

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o report of the Department of Columbia received and forwarded November 1 *ng the organization and strength of enlisted men in the Army, &c.*—Continued.

SIXTH REGIMENT OF CAVALRY.

c.	Enlisted men present and absent.	Date of report.	Station.
		Aug. 31, 1873	Fort Hays, Kans.
ned d.	25	do	Do.
	71	do	Fort Wallace, Kans.
	75	do	Fort Hays, Kans.
	70	do	Do.
	68	do	Do.
	67	do	Fort Gibson, Ind. T.
	69	do	Fort Hays, Kans.
	67	do	Fort Dodge, Kans.
	70	do	Fort Lyon, Colo.
	75	do	Camp Supply, Ind. T.
	70	do	Do.
	77	do	Fort Riley, Kans.
	72	do	Fort Lyon, Colo.
	876		

SEVENTH REGIMENT OF CAVALRY.

rs		Aug. 31, 1873	Saint Paul, Minn.
ssioned band.	59	do	Do.
	65	do	Fort A. Lincoln, Dak.
	58	do	Do.
	55	do	Fort Rice, Dak.
	68	do	Fort Pembina, Dak.
	60	do	Fort A. Lincoln, Dak.
	68	do	Do.
	67	do	Do.
	71	do	Fort Rice, Dak.
	72	do	Fort Pembina, Dak.
	66	do	Fort Rice, Dak.
	66	do	Fort A. Lincoln, Dak.
	53	do	Fort Rice, Dak.
	1		Recruit left Saint Louis Barracks July 5, 1873.
	111		Recruits left Saint Louis Barracks October 13, 1873.
	100		Recruits left New York City October 12, 1873.
	1,040		

EIGHTH REGIMENT OF CAVALRY.

arters		Aug. 31, 1873	Fort Union, N. Mex.
umissioned and band.	18	do	Do.
	64	do	Fort Bayard, N. Mex.
	63	do	Fort Union, N. Mex.
	67	do	Fort Selden, N. Mex.
	65	do	Fort Stanton, N. Mex.
	64	do	Fort Wingate, N. Mex.
	65	do	Fort Garland, Colo.
	55	do	Fort Selden, N. Mex.
	60	do	Fort McRae, N. Mex.
	60	do	Fort Bayard, N. Mex.
	54	do	Fort Wingate, N. Mex.
	63	do	Fort Union, N. Mex.
	67	do	Do.
	19		100 recruits left Saint Louis Barracks July 22, 1873; 81 joined. 220 recruits ordered October 29, 1873.
	784		

ent showing the organization and strength of enlisted men in the Army, &c.—**Continued.**

FOURTH REGIMENT OF INFANTRY.

panies, &c.	Enlisted men present and absent.	Date of report.	Station.
uarters		Sept. 30, 1873	Fort Bridger, Wyo.
ommissioned and band.	20	do	Do.
	46	do	Fort Fetterman, Wyo.
	58	do	Fort Bridger, Wyo.
	58	do	Do.
	58	do	Fort D. A. Russell, Wyo.
	58	do	Do.
	40	do	Fort Fetterman, Wyo.
	59	do	Fort Sanders, Wyo.
	46	do	Camp Douglas, Utah.
	59	do	Fort Sanders, Wyo.
	59	do	Fort Bridger, Wyo.
	53		Unassigned recruits.
Total	614		

FIFTH REGIMENT OF INFANTRY.

panies, &c.	Enlisted men present and absent.	Date of report.	Station.
uarters		Aug. 31, 1873	Fort Leavenworth, Kans.
ommissioned and band.	18	do	Do.
	57	do	Do.
	56	do	Fort Gibson, Ind. T.
	45	do	Fort Larned, Kans.
	45	do	Fort Dodge, Kans.
	45	do	Fort Larned, Kans.
	52	do	Do.
	54	do	Fort Leavenworth, Kans.
	57	do	Do.
	50	do	Do.
	57	do	Do.
	8		Unassigned recruits.
Total	544		

SIXTH REGIMENT OF INFANTRY.

panies, &c.	Enlisted men present and absent.	Date of report.	Station.
uarters		Aug. 31, 1873	Fort Buford, Dak.
ommissioned f and band.	22	do	Do.
	53	do	Do.
	55	do	Fort Abraham Lincoln, Dak.
	49	do	Fort Buford, Dak.
	57	do	Do.
	59	do	Do.
	58	do	Do.
	58	do	Do.
	57	do	Fort Stevenson, Dak.
	58	do	Fort Buford, Dak.
	56	do	Fort Stevenson, Dak.
	1		Musician left Fort Columbus October 28, 1873.
tal	583		

SEVENTH REGIMENT OF INFANTRY.

panies, &c.	Enlisted men present and absent.	Date of report.	Station.
uarters		Aug. 31, 1873	Fort Shaw, Mont.
ommissioned f and band.	20	do	Do.
	58	do	Fort Ellis, Mont.
	57	do	Fort Benton, Mont.
	56	do	Fort Shaw, Mont.
	58	do	Do.
	59	do	Do.
	58	do	Do.
	58	do	Do.
	53	do	Camp Baker, Dak.
	54	do	Fort Shaw, Mont.
	58	do	Do.
tal	589		

ent showing the organization and strength of enlisted men in the Army, &c.—Continued.

ELEVENTH REGIMENT OF INFANTRY.

panies, &c.	Enlisted men present and absent.	Date of report.	Station.
quarters		Aug. 31, 1873	Fort Richardson, Tex.
ommissioned ff and band.	19	do	Do.
	40	do	Fort Griffin, Tex.
	55	do	Fort Richardson, Tex.
	53	do	Do.
	49	do	Do.
	48	do	Fort Concho, Tex.
	50	do	Fort Griffin, Tex.
	49	do	Do.
	39	do	Fort Concho, Tex.
	52	do	Fort Richardson, Tex.
	48	do	Do.
Total	502		

TWELTH REGIMENT OF INFANTRY.

adquarters		Aug. 31, 1873	Angel Island, Cal.
n-commissioned staff and band.	21	do	Do.
	55	do	Camp Wright, Cal.
	41	do	San Diego, Cal.
	55	do	Fort Hall, Ind. T.
	46	do	Camp Independence, Cal.
	42	do	Camp Gaston, Cal.
	55	do	Camp Beale's Springs, Ariz.
	74	do	Angel Island, Cal.
	40	do	Camp Halleck, Nev.
	55	do	Camp Mohave, Ariz.
	55	do	Camp Gaston, Cal.
	11		143 recruits left Fort Columbus May 4, 1873; 132 joined.
	1		Recruit left San Francisco July, 1873.
Total	551		

THIRTEENTH REGIMENT OF INFANTRY.

eadquarters		Aug. 31, 1873	Fort Fred Steele, Wyo.
on-commissioned staff and band.	23	do	Do.
A	55	do	Camp Brown, Wyo.
B	31	do	Fort Fred Steele, Wyo.
C	44	do	Camp Douglas, Utah.
D	37	do	Do.
E	44	do	Do.
	37	do	Do.
	41	do	Fort Fred Steele, Wyo.
I	40	do	Camp Douglas, Utah.
	50	do	Do.
K	45	do	Fort Fred Steele, Wyo.
	151		Recruits left Fort Columbus September 29, 1873.
Total	598		

howing the organization and strength of enlisted men in the Army, &c.—Continued.

SEVENTEENTH REGIMENT OF INFANTRY.

&c.	Enlisted men present and absent.	Date of report.	Station.
		Aug. 31, 1873	Fort Abercrombie, Dak.
	20	do	Do.
	56	do	Do.
	59	do	Fort Wadsworth, Dak.
	40	do	Do.
	48	do	Camp Hancock, Edwinton, Dak.
	51	do	Grand River Agency, Dak.
	50	do	Fort Abercrombie, Dak.
	54	do	Grand River Agency, Dak.
	51	do	Fort A. Lincoln, Dak.
	53	do	Big Cheyenne Agency, Dak.
	45	do	Do.
			80 recruits ordered October 29, 1873.
	526		

EIGHTEENTH REGIMENT OF INFANTRY.

		Aug. 31, 1873	Columbia, S. C.
band.	27	do	Do.
	49	do	Atlanta, Ga.
	51	do	Columbia, S. C.
	45	do	Yorkville, S. C.
	48	do	Columbia, S. C.
	58	do	Atlanta, Ga.
	48	do	Columbia, S. C.
	45	do	Do.
	56	do	Do.
	54	do	Do.
	51	do	Newberry, S. C.
	516		

NINETEENTH REGIMENT OF INFANTRY.

		Aug. 31, 1873	Jackson Barracks, La.
	19	do	Do.
	53	do	Baton Rouge, La.
	50	do	Jackson Barracks, La.
	44	do	Alexandria, La.
	47	do	Do.
	41	do	Saint Martinsville, La.
	47	do	Jackson Barracks, La.
	44	do	Greenwood, La.
	49	do	Jackson Barracks, La.
	41	do	Greenwood, La.
	41	do	Baton Rouge, La.
	476		

TWENTIETH REGIMENT OF INFANTRY.

		Aug. 31, 1873	Fort Snelling, Minn.
	85	do	Do.
	51	do	Fort Seward, Dak.
	54	do	Fort Ripley, Minn.
	54	do	Fort Snelling, Minn.
	58	do	Fort Pembina, Dak.
	51	do	Fort Totten, Dak.
	54	do	Fort Pembina, Dak.
	58	do	Fort Ripley, Minn.
	54	do	Fort Snelling, Minn.
	54	do	Fort Pembina, Dak.

howing the organization and strength of enlisted men in the Army, &c.—**Continued.**

TWENTY-FIFTH REGIMENT OF INFANTRY.

s, &c.	Enlisted men present and absent.	Date of report.	Station.
ers........	....	Aug. 31, 1873	Fort Davis, Tex.
issioned band.	21	......do	Do.
....	54	......do	Fort Clark, Tex.
....	58	......do	Fort Quitman, Tex.
....	57	......do	Fort Sill, Ind. T.
....	59	......do	Fort Davis, Tex.
....	58	......do	Do.
....	59	......do	Fort Stockton, Tex.
....	59	......do	Fort Davis, Tex.
....	57	......do	Fort Bliss, Tex.
....	57	......do	Fort Sill, Ind. T.
....	56	......do	Fort Stockton, Tex.
tal........	595		

ENGINEER BATTALION.

arters.......	....	Aug. 31, 1873	Willet's Point, New York Harbor.
nmissioned and band.	14	......do	Do.
....	75	......do	Do.
....	74	......do	Do.
....	71	......do	Do.
....	20	......do	Do.
....	62	......do	West Point, N. Y.
otal.........	316		

Recruits, recruiting parties, general-service men, &c.	Enlisted men.	Date of report.
ble recruits at Ft. Columbus, New York Harbor, general service and colored	215	Oct. 31, 1873
ble recruits at Newport Barracks, Ky., general service and colored	100	Oct. 31, 1873
ble recruits at Saint Louis Barracks, Mo., mounted service..................	129	Oct. 20, 1873
ble recruits at New York City, mounted service..............................	44	Oct. 31, 1873
Total..	488	....
nent and recruiting parties, music boys, and recruits at depots not available assignment.	963	Oct. 20, 1873
l-service men on duty in Bureaus of the War Department, Army, division, department headquarters, &c.	477	Aug. 31. 1873
nce Department	485	Aug. 31, 1873
Point detachments..	215	Aug. 31, 1873
detachment	432	Aug. 31, 1873
al stewards..	391	Oct. 31, 1873
nce sergeants	111	Oct. 31, 1873
ssary sergeants	152	Oct. 31, 1873

t.—The authorized strength (enlisted men) of the following-named organizations is as follows:

er Battalion.........	350	Artillery regiment	748	Cavalry regiment..........	1, 081
ry regiment..........	595	Company of artillery......	59	Cavalry company..........	83
y company..........	59	Battery of artillery	94		

n States and all the Territories east of Arizona, California, om British Columbia on the north to the Gulf of Mexico Within these limits, which include more than one million of frontier country, are included great agricultural, pastoral, mercantile interests, and also 99 tribes of Indians, number- 2,000 persons, the majority of whom are wild and many of .

rotection to the citizens of the frontier against these Indians l the long line of our Mexican border against robberies by izens and Indians living in Mexico; to explore unknown ter- urnish escorts to surveying-parties for scientific purposes and l railroads; to assist and guard the railways already built and iercial lines of travel; to aid in the enforcement of the civil ote places; and to do generally all that is constantly required ny in the way of helping and urging forward everything s to develop and increase civilization upon the border, and at ime to protect the Indians in the rights and immunities guar- m under existing treaties, has been the work of the troops in ry division for the past year, and that work has been success- mplished.

ctive military forces within the division—a detailed account will be found in the roster appended, marked A—consist egiments of cavalry and seventeen regiments of infantry, ag- 16,459 officers and enlisted men, who are distributed as fol- the Department of Dakota, cavalry, 1,126; infantry, 3,022; epartment of the Platte, cavalry, 1,502; infantry, 2,704; in rtment of the Missouri, cavalry; 1,558; infantry, 1,564; and epartment of Texas, cavalry, 2,491; infantry, 2,492. This force l among 70 military posts, which cover the frontier from Mon- the north to the mouth of the Rio Grande on the south.

g the past year there has been only one change among the de- t commanders. Maj. Gen. Winfield S. Hancock was relieved command of the Department of Dakota on the 3d of December, direction of the War Department, and assigned to the com- f the military division of the Atlantic, and Brig. Gen. A. H. as assigned to duty in his place.

last spring, in consequence of repeated attacks by the Indians post of Fort Abraham Lincoln, I deemed it necessary that a nt of cavalry should be transferred to the Department of Dakota, r that these Indians might be followed and punished, if they enewed their attacks. On application to headquarters of the the Seventh Cavalry was ordered from the Military Division of uth to the Department of Dakota, and, by direction of Gen. A. ry, stationed at Forts Rice and Abraham Lincoln. This transfer ry fortunate, as it afterwards transpired that the authorities of orthern Pacific Railroad desired to continue their surveys, and at it had been determined by the Government to locate the north- undary line, and the services of mounted troops became absolutely ary for these purposes. As soon as the directors of the Northern Railroad had definitely settled upon their plan of operations for mmer, I deemed it necessary that some point upon the Yellow- should be found near which to establish a depot for supplies, and agreement with Captain Coulson, agent of the contractor for nment transportation on the Missouri River for 1873, to furnish a oat to go from Fort Buford up the Yellowstone River, I sent eorge A. Forsyth, of my staff, to ascend that river, if possible, d fix upon some point near the mouth of the Powder River for this epot. This trip up the Yellowstone was successfully made as far as at point, and a convenient place found for a supply depot, in case one as required. Further explorations have also established the fact that e Yellowstone is navigable for light-draught boats for a considerable istance above the mouth of Powder River, and it is thought that boats an now be run up nearly or quite to the mouth of Big Horn River. pon the completion of this duty, Major Forsyth returned to Fort Rice, here the expedition was being organized for the protection of the surveying parties of the Northern Pacific Railroad; and, upon his report, rig. Gen. A. H. Terry, commanding the Department of Dakota, ordered e establishment of a depot of supplies for the Yellowstone expedion at or near Glendive Creek, where it empties into the Yellowstone, e point at which it was assumed that the surveying parties of the orthern Pacific Railroad would run their line across the river.

This expedition, under command of Col. David S. Stanley, Twentyecond Infantry, left Forts Rice and Abraham Lincoln on the 16th of une, returning to its point of departure on the 21st of September, and ıcceeded in accomplishing the purposes for which it was intended, for e details of which reference is made to the reports of Brig. Gen. A. . Terry and the sub-reports of Col. D. S. Stanley and Lieut. Cols. eorge A. Custer and Luther P. Bradley.

The survey of the northern boundary line has been progressing satisctorily to all concerned throughout the summer, and the troops are ow en route for their winter-quarters at Fort Totten, Dak.

In the Department of the Platte, the troops were increased by the ansfer of the Fourth Infantry from the Military Division of the South. this department all of the troops have been kept actively employed covering the advanced settlements in Nebraska, in Western Kansas ong the line of the North Fork of the Republican River, in Wyoming erritory between Forts Fetterman and Laramie, and along the line of e Union Pacific Railroad. For a detailed account of the operations in is department, I respectfully refer to the accompanying reports of rig. Gen. E. O. C. Ord and his subordinates.

Nothing of unusual interest has occurred in the Department of the issouri. The troops have been kept actively employed in the field for e purpose of intimidating roving bands of Indians, who might be mpted to commit depredations upon settlers and interrupt lines of avel. Brig. Gen. John Pope, in his report, gives a clear and comprensive statement of his year's work, to which reference is respectfully ade.

In the Department of Texas there has been a great deal of trouble ong the northern line of the State, and also along the line of the Rio rande. The troubles on the northern frontier of Texas have been rincipally from Indians coming from the reservations in the Indian Terriry; and I respectfully request that some definite authority be given e to punish these raiding parties of Indians upon their return to their servations. I believe it is the only way in which the evil can be cured.

The people living along the line of the Rio Grande have been heretore frequently plundered by raiding parties of Indians and Mexicans om Mexico. I am happy to state that these depredations have diminhed very materially since the punishment administered by Col. Ranald Mackenzie, Fourth Cavalry, upon a raiding band of Kickapoo and ipan Indians. For the details of Colonel Mackenzie's attack on the ipans and Kickapoos, as well as for a very complete statement of

military affairs in Texas, I respectfully refer to the accompan
of Brig. Gen. C. C. Augur.

It has been found necessary to make extensive repairs at
posts within this division during the year, but only one n
cavalry barracks near Fort Abraham Lincoln, has been ere
siderable money has also been expended in the complet
posts at Beaver City, Utah, and at Fort Clarke, Tex. I
nection I beg leave to call the attention of the General of t
the fact that, while the troops within this division will be
fortably quartered during the winter, they will be inconvenie
at some of the posts within the Departments of Dakota
Platte. Provision will have to be made for thorough rep
Laramie, Wyo., McPherson, Nebr., and Camp Douglas, U
the ensuing summer.

The necessity of keeping Indians on their reservations
more apparent every day, with the westward growth of the
and the rapid progress and development of the mining and
ing interests in the State of Nebraska and the Territories o
and Colorado. During the last twelve months, depredatio
bands of Indians, who, as a general thing, come from som
various Indian reservations within the limits of this comman
exasperatingly frequent. They have attacked our posts,
wounded our citizens and carried off their cattle, and, when
our troops, taken refuge within the line of their reservation
boasted of their atrocities. It seems to me that a rigid ru
made, forbidding their absence from their reservations, and
disregarded it, authority should be given the military to fo
reservation, search out, capture and punish all whom it ca
have been absent from their agencies, and off the reservatio

I respectfully recommend the erection of a large milita
the base of the Black Hills, at some good point to be selecte
In this way we could secure a strong foothold in the heart o
country, and thereby exercise a controlling influence over t
people.

My thanks are due to Generals Pope, Terry, Ord, and
command the four Departments of this Military Division, f
gent administration of their commands, and for the exerci
economy in their estimates for, and expenditures of, public f
the last fiscal year.

I am, colonel, very respectfully, your obedient serva

P. H. SHERI

Lieutenant-General Co

Col. WILLIAM D. WHIPPLE,
Asst. Adjt. Gen., U. S. A., Washington, D. C.

REPORT OF BVT. MAJ. GEN. JOHN POP

HEADQUARTERS DEPARTMENT OF THE MISS
Fort Leavenworth, Kans., Octob

COLONEL: I have the honor to submit the following rep
in this department for the past year:

I am glad to be able to say that, with very trifling except
no difficulties nor troubles with Indians anywhere in the de
report. The exceptions are: 1st, the murder of three sur

arty of Cheyennes, on the Cimmarron River, in March last. The point
'here these murders were committed was beyond the limits of this de-
artment, but I deemed it necessary, in view of the fact that the scene
f the trouble was nearer and more accessible to this place than to the
eadquarters department of Texas, to take immediate measures to pre-
ent any further occurrence of that kind, and I accordingly placed
wo companies of the Sixth Cavalry at a point southwest of Wichita,
n the Arkansas River, to scout continually the southern line of Kansas
s far as the Cimmarron, and three companies of the same regiment at
'ort Dodge—one company of which was directed to scout the country
outh and southeast from the post. Since then no trouble with Indians
f any kind has occurred in that region.

2d. The usual small troubles (much more trifling in character and
ewer in number) have occurred in the southern part of New Mexico
ith the Apaches on the reservations of Tulerosa and Fort Stanton, but
y the active operations and judicious management of Major Price,
ighth Cavalry, who has general command in Southern New Mexico,
nd who has been continually moving about through that country with
our, and at times five, companies of his regiment, difficulties and depre-
ations have been kept within very narrow limits, and have now almost
ltogether ceased.

The policy in the department has been rather to prevent than try to
unish Indian depredations, by adopting early in the spring, and main-
aining until winter set in, such precautionary measures as seemed most
fficient, and the results have been eminently satisfactory, and are
lainly manifest in the undisturbed condition of the department and in
ie entire absence of alarm or uneasiness on the part of the frontier
ettlers, who have ceased entirely to feel alarmed themselves or to
larm other people. Instead of keeping the troops at the military posts,
nly to be sent out on receipt of news of Indian depredations, the en-
re cavalry force has been kept in the field since the early spring, mov-
ig about from place to place, a few miles every day, without special
bject in their marches, except water and grass for animals. Instead of
ermitting the Indians to wander about, as has been their custom, all
rough the summer, to commit depredations whenever the opportunity
ffered, the troops have themselves been kept on the march, so that the
idians could not know where they were or at what moment or when
iey might come in contact with them. In this manner the necessity of
atching has been thrown upon the Indians and not, as hitherto, upon
ie troops shut up at the posts for a large part of the season, and the
esult has been that the Indians have been very cautious and have in
ie main kept very close to the region assigned them as reservations.

The greatest danger now in this department arises from what seems
) me the unfortunate practice of granting permission to Indians, of
hatever tribe, to leave their reservations, and on pretext of hunting
r really for that purpose, to roam in considerable bands all through
ie frontier settlements of Kansas and Colorado. I do not consider
ich a practice just to the white settlers, and it is certainly unsafe both
) them and to the Indians.

I dwelt at such length on this subject in my last report that I deem
unnecessary to discuss it here, more especially as I know that the
ivision commander entertains the same opinion as I do on the subject
nd is as fully acquainted with the reasons.

There was at one time uneasiness about those bands of the Utes,
pon whose reservations white men, miners, and prospectors had largely
itruded, but no outbreak has occurred, and I presume such arrange-

ments have now been made as will render any difficulty wi
dians unlikely.

I deem it unnecessary to enter into any consideration of
of shelter for troops or the repair of posts now occupied
such matters have been fully represented in regular co
concerning them.

It is proper, however, to state, as the result of actual ex
a yearly sum ought to be appropriated to keep the mili
repair. It is not to be supposed that such frail structures
built for the accommodation of the military forces of the U
doing duty on the remote frontier, (except the ordnance
kept in repair without the expenditure of a considerable s
nor does it seem the best or most efficient way of doing th
estimates to Washington for the smallest details of such
certainly would seem better to assign a certain sum annua
of all important permanent posts, so that these posts at le
always kept in good order. The hardships and hard work
on the frontier must endure, and do, and which they
dergo, certainly entitles them to habitable quarters durin
winters of this region, and whatever expenditure of mone
to secure this for them ought, if possible, to be made both
of justice and of good policy.

I trust, therefore, that some provision will be made, h
to assign at the beginning of every fiscal year a fixed s
termined in any manner which may seem most suitable, t
pair all the posts in each military department in the gros
post separately, so that the trifling work which needs to b
every day may be done when the necessity arises, and wi
the long delay of sending to and receiving back from Was
estimates for such purposes.

The sums thus required would be enough if furnished at
are quite insufficient after a delay of two or three months.

It is my agreeable duty to bear testimony to the very
judicious action of Major Price, Eighth Cavalry, in his dea
Indians in the southern part of New Mexico, as also of Maj
Eighth Cavalry, commanding in the Ute country. Both
have been very active and very successful in keeping pea
tecting the frontiers.

Lieut. Col. J. R. Brooke, Third Infantry, commanding
and Maj. R. I. Dodge, Third Infantry, commanding Fort D
titled to the same justice at my hands.

The camp of the Sixth Cavalry near Fort Hays, under
Col. James Oakes of that regiment, has also fully satisfie
for which cavalry was stationed in that region.

Orders will be sent in a few days to withdraw all the
field to winter-quarters at the posts from which they were
by November 10 it is expected that the execution of the
completed.

After that date there is little, if any, fear that Indians
on the great plains.

We have been subjected to much inconvenience and so
ment by the absence of so many field officers from their r
it is hoped that some of those now on detached service m
to rejoin their regiments at the earliest convenient time.

Concerning the administration of the department in it
tails, I refer to the reports of the chiefs of the staff departm

d in relation to the same matters, I ask attention to the recom-
endations made in my previous reports, which are again commended
the consideration of the proper authorities.

It is, perhaps, not improper for me to specify two subjects which seem
me to be worthy of attention:

1st. Concerning the recruiting service and the detail of officers for
at duty. The tour of duty of officers assigned to recruiting service
gins and ends on the 1st of January, the tour of such officers lasting
o years. I suggest that the time of reporting for and being relieved
om such duty be fixed at May 1 or July 1, instead of January 1. Of-
ers detached for recruiting service from remote posts, far from rail-
ads, and ordered to report January 1, in the depth of winter,
d it, in many cases, impracticable or exceedingly difficult, without
ich suffering, to obey the order, unless, indeed, they leave their posts
veral months earlier than would be necessary to make the journey,
d officers relieved from recruiting duty on the 1st of January, in like
anner, find it, at times, absolutely impracticable in many cases to
n their proper stations at that season of the year, and are therefore
liged either to ask leave of absence or delay in obeying the order,
til the season is suitable to travel to remote posts. In this manner
any officers are kept away from duty at their posts for several months,
ien, by fixing the time of joining recruiting stations, or being relieved
om that duty, at May 1 or July 1, no such necessity would arise. I
not know what are the reasons for preferring the 1st of January for
ginning and terminating recruiting-service details, but, unless they
e very important, the interests of the service on the frontier would be
eatly benefited by the suggested change.

2d. It would be greatly to the advantage of the Army on the frontier
the annual appropriations for building and repairing shelter for the
oops could be made available on the 1st of February of each year in-
ead of the 1st of July. It has not seemed practicable to distribute
e sums approved on requisitions for the posts on the frontier so that
ey can reach such posts before the autumn, generally too late in the
ason to be applied to building before the following spring. By hav-
g the money assigned for such purposes early in the spring, the whole
ason in which building or repairing can be best done, would be avail-
le for the purpose, and the troops need not, as is now the case, suf-
more or less all winter because of the impracticability of using the
nds actually allowed during that season of the year. Whether this
ange can be made, or whether it be judicious to make it, must be left
higher authority, and I simply offer the suggestion for considera-
n.

I would also suggest the advisability of retransferring to this depart-
nt that portion of the Indian country between the southern line of
nsas and the Canadian River, including Fort Gibson. I think the
vision commander agrees with me that the defensive arrangements of
s department require that the department commander should have
risdiction over that region.

The various staff departments have been conducted with efficiency
d good judgment, as I think the results show.

We are rapidly acquiring thorough knowledge of all the country em-
aced in the limits of the department, and most excellent maps, through
e various scouting parties, in each of which an officer or an engineer
dier has made careful surveys and sketches under detailed instruc-
ns from department headquarters.

I transmit inclosed a roster of the department and a fie
the troops serving in it.

I am, colonel, respectfully, your obedient servant,

JNO. P
B'v't Maj. Gen., U. S. A., Con

Official:
R. WILLIAMS,
Assistant Adjutant-General.

Lieut. Col. J. B. FRY, *Asst. Adjt. Gen.*,
Headquarters Military Division of the Missouri.

NOTE.—Since the above report was written, a party of t
Cheyennes left their reservation south of Camp Supply, and
to the west of all the posts entered the southern part of Co
of Fort Lyon, and went up as far as the Kansas Pacific
River Bend. The Indians were not hostile, and beyond st
cooking utensils and killing a few cattle they did no damag
that their presence excited such immediate attention from
as well as the troops, they hastened back toward their reser

Full report of the matter having been made to the divisio
der so recently, it seems unnecessary to enter into details he
Indians belonging to this party are individually known t
arrested and punished at any time on their reservation. Th
committed any acts demanding such condign capital punis
see from the papers) the Secretary of the Interior recom
have they done anything that is not done every year by
reservation Indians, against the perpetrators of which sever
have been discountenanced, not to say denounced. Only i
last a party of Cheyennes, some of whom were without dou
Indians who were on the late expedition into Colorado, w
Canadian River from their reservation with the same purp
fight the Utes,) and in returning began to depredate on the
near Bascom. They were attacked by troops from that post
killed. This act, which seems to be recommended in the p
when it is too late for execution, was the occasion of remo
the Interior Department, and a manifest intention was show
the blame of any further depredations by the Cheyennes up
tary who did it. If the Interior Department really wishes
ennes recently in Colorado punished, they have only to cons
arrest when they get back to their reservation. I can
promptly do this and save unnecessary bloodshed among in
ple.

REPORT OF MAJ. GEN. IRWIN McDOWEL

HEADQUARTERS DIVISION OF THE SO
Louisville, Ky., Octobe

SIR: I have the honor to submit to the General of the Ar
lowing report of the military operations and the military ser
division (reconstituted December 11, 1872, and consisting of t
ments of the South and the Gulf) for the year commencing
1872:

DEPARTMENT OF THE SOUTH.

October 1, 1872.—The posts of Lincolnton and Rutherfordton, N. C.,
ere discontinued, and Company C, Seventh Cavalry, was ordered from
incolnton to Charlotte, N. C., and Company C, Fourth Artillery, was
rdered from Rutherfordton to Raleigh, N. C., where it arrived October
, 1872.

October 16, 1872.—Company H, Seventh Cavalry, was sent from Nash-
lle, Tenn., to Livingstone, Sumter County, Ala., to protect citi-
ns at the election, and returned November 10, 1872.

October 21, 1872.—Company E, Eighteenth Infantry, sent from At-
nta, Ga., to Seales Station, Russell County, Ala., and ordered
ack November 8, 1872. One commissioned officer and twenty-five men,
ompany A, Seventh Cavalry, were ordered from Elizabethtown, Ky.,
report to United States marshal. One commissioned officer and fif-
en men of Company H, Seventh Cavalry, detached from Livingstone,
umter County, to Carrollton, Pickens County, Ala., ordered back
ovember 10, 1872.

October 22, 1872.—Company B, Second Infantry, was sent from At-
nta, Ga., to Demopolis, Marengo County, Ala., and Company I,
econd Infantry, was sent from Chattanooga, Tenn, to Eutaw, Greene
ounty, Ala. Both returned to their posts November 10, 1872.
ne commissioned officer and twelve enlisted men of Company A,
ighteenth Infantry, were ordered from Atlanta, Ga., to Macon, Ga.,
request of the United States marshal, and ordered back November
, 1872.

October 29, 1872.—Company E, Third Artillery, was ordered from Fort
ulaski to Savannah, Ga., during the election.

November 1, 1872.—One officer and ten men were placed en route for
ach of the following places in Alabama from Chattanooga, Tenn.: Ab-
eville, Henry County, Second Lieut. A. McIntyre, Second Infantry.
olumbia, Henry County, First Lieut. J. Ulis, Second Infantry. Or-
ered back November 10, 1872.

One officer and ten men placed en route for each of the following places
Alabama, from Nashville, Tenn.; Ozark, Dale County; Greenville,
utler County; Rutledge, Crenshaw County; Troy, Pike County. Or-
ered back November 10, 1872.

November 6, 1872.—Headquarters, and Light Battery C, Third Artil-
ry, were placed en route for New York City, in compliance with Gen-
al Orders No. 88, War Department, Adjutant-General's Office, of 1872.

November 12, 1872.—Light Battery K, First Artillery, arrived in the
epartment from the Department of the East, in compliance with Gen-
al Orders No. 88, War Department, Adjutant-General's Office, of 1872,
d took post at Charleston, S. C.

November 15, 1872.—Headquarters, staff, band, and Company H, First
rtillery, arrived in the department pursuant to General Orders No. 88,
ar Department, Adjutant-General's Office, of 1872, and took post at
harleston, S. C., relieving Company I, Third Artillery, which was
aced en route for the Department of the East.

November 17, 1872.—Company D, First Artillery, arrived in the de-
artment from the Department of the East pursuant to General Orders
o. 88, War Department, Adjutant-General's Office, of 1872, and took
ost at Savannah, Ga., relieving Company K, Third Artillery, which
as placed en route for the Department of the East.

November 20, 1872.—Maj. John Hamilton and Companies B and C,
irst Artillery, arrived at Fort Pulaski, Georgia, from the Department

of the East, relieving Companies E and H, Third Artillery, placed en route for New York City, in compliance with Gene No. 88, War Department, Adjutant-General's Office, of 1872.

November 22, 1872.—Maj. J. C. Tidball and Companies F an Artillery, arrived at Raleigh, N. C., from the Division of the

November 30, 1872.—Captain Weir and thirty enlisted me pany D, Seventh Cavalry, were placed en route for Montgo on the request of the governor of Alabama, based on the repr of the sheriff of Montgomery County.

December 5, 1872.—Company K, Sixteenth Infantry, was rel duty at Saint Augustine, Fla., and ordered to Frankfort, Ky. I, Seventh Cavalry, was relieved from duty at Shelbyville, a to Lebanon, Ky.

December 6, 1872.—Company L, Seventh Cavalry, was reli duty at Yorkville, S. C., and ordered to Shreveport, La., (D of the Gulf,) and Company M, Seventh Cavalry, was relieved at Unionville, S. C., and ordered to Oxford, Miss., (Departm Gulf,) by order of the General of the Army.

December 11, 1872.—I assumed command of the Division a ment of the South, relieving Brig. Gen. A. H. Terry from c the latter, in compliance with General Order 100, War Depar jutant-General's Office, of 1872.

December 16, 1872.—Company A, Sixteenth Infantry, was Louisville to Frankfort, Ky., pursuant to paragraph 4th, Sp 310, War Department, Adjutant-General's Office, of 1872; the fantry was placed en route for Little Rock, Ark., in the follow 16th, Company H; 18th, Company F; 19th, Company I; 21st D; 23d, Company A; 24th, Company E; 25th, Company B; pany C; January 7, 1873, Company K; January 14, 1873, Co

December 18, 1872.—Company L, Seventh Cavalry, placed e Shreveport, La., in compliance with paragraph 4, Special War Department, Adjutant-General's Office of 1872.

December 23, 1872.—Company K, Sixteenth Infantry, wa Frankfort, Ky., from Saint Augustine, Fla.

December 25, 1872.—Company M, Seventh Cavalry, from S. C., placed en route for Oxford, Miss., in compliance with der 310, War Department, Adjutant-General's Office, of 1872.

December 26, 1872.—Company I, Second Infantry, was or Chattanooga, Tenn., to Lancaster, Ky.

December 30, 1872.—Company I, Seventh Cavalry, abandon of Shelbyville, and went to Lebanon, Ky.

January 6, 1873.—One officer and twenty men of Compa enth Cavalry, from Taylor Barracks, Ky., placed en route stone, Rockcastle County, Ky., to assist United States mars ing process of United States court.

January 17, 1873.—The post of Laurensville, S. C., ord doned, and Company I, Eighteenth Infantry, ordered to Co C., where it arrived January 26, 1873. Company G, Sevent ordered to Newberry, S. C., and arrived there January 23, 18

January 21, 1873.—The post of Chester, S. C., ordered a and Company H, Eighteenth Infantry, placed en route for S. C. Detachment of cavalry sent to Yorkville, S. C., a January 29, 1873.

January 26, 1873.—Detachment of Company A, Seventh dered back to Elizabethtown, Ky., from Huntsville, Ala.

January 29, 1873.—At the request of United States Marsh ompany A, Sixteenth Infantry, was sent to Lexington, Ky., from Frank- ort, Ky., and ordered back February 7, 1873.

February 3, 1873.—Headquarters and band, Fourth Infantry, left rankfort, Ky., for Little Rock, Ark.

February 15, 1873.—Commanding officer post of Atlanta, Ga., was irected to place one officer and twenty men en route for Moultrie, Col- uitt County, Ga., at request of United States Marshal Smyth, of eorgia. They returned to Atlanta, Ga., April 16, 1873.

February 17, 1873.—Company D, Seventh Cavalry, was ordered from pelika to Livingstone, Sumter County, Ala., by direction of the Presi- ent.

March 3, 1873.—Company A, Sixteenth Infantry, was placed en route or Lebanon, Ky,

March 13, 1873.—Company D, Seventh Cavalry, arrived at Memphis, enn., from Livingstone, Ala.

March 15, 1873.—Company E, Seventh Cavalry, arrived at Memphis, enn., from Unionville, S. C.

March 17, 1873.—Company K, Seventh Cavalry, arrived at Memphis, enn., from Yorkville, S. C.

March 18, 1873.—Company M, Seventh Cavalry, arrived at Memphis, enn., from Oxford, Miss.

March 20, 1873.—Company C, Seventh Cavalry, arrived at Memphis, enn., from Charlotte, N. C. Company B, Seventh Cavalry, arrived at emphis, Tenn., from Spartanburg, S. C.

April 2, 1873.—Headquarters, staff, band, and Companies A, F, H, nd I, Seventh Cavalry, left Louisville, Ky., en route for Department of akota.

April 3, 1873.—Companies G and D, Seventh Cavalry, left Memphis, enn., for Department of Dakota.

April 4, 1873.—Companies E and K, Seventh Cavalry, left Memphis, enn., for Department of Dakota.

April 5, 1873.—Companies B, C, L, and M, Seventh Calvary, left Mem- his, Tenn., for Department of Dakota.

May 20, 1873.—The post of Spartanburg, S. C., ordered abandoned, nd garrison (Company D, Second Infantry) sent to Atlanta, Ga., June , 1873, arrived June 7, 1873.

June 11, 1873.—The post of Taylor Barracks, Louisville, Ky., aban- oned, Company E, Sixteenth Infantry, placed en route for Lancaster, y., to relieve Company I, Second Infantry, the latter, when relieved, o proceed to Atlanta, Ga. Garrison at Nashville was temporarily emoved to White Creek Springs on account of cholera.

July 10, 1873.—Charleston Arsenal, S. C., was ordered discontinued, nd the arsenal (to be hereafter known as Charleston Barracks) to form art of the post of Charleston.

August 19, 1873.—The post of Sumter, S. C., ordered to be abandoned nd Company F, Eighteenth Infantry, to proceed to and take station at olumbia, S. C.

September 4, 1873.—The post of Charlotte, N. C., discontinued, and ompany D, Second Artillery, ordered to take post at Charleston Bar- acks, S. C.

September 20, 1873.—The garrison of Mobile, Ala., headquarters, staff, and, and Companies G and K, Second Infantry, temporarily moved to ount Vernon, Ala., in consequence of yellow fever. The movements of roops in this department were made in aid of the United States civil fficers, to enforce the processes of the United States courts, and collect he internal revenue. In all cases the troops fulfilled the duty on which

they were sent. Soon after assuming command of the divisi
an inspection of all the posts in this department, and in the i
discipline, military instruction, and economy, abandoned suc
as the nature of the public service permitted, and concen
troops, as far as practicable, at such points as enabled them t
tained at the least cost and greatest comfort. Fourteen of th
posts of the department were thus abandoned, at an annua
over !$100,000 on account of the Quartermaster's Departm
For the purpose of making a further reduction in expense, o
the necessity of repairing old temporary quarters built on hir
and of exchanging an unhealthy for a healthy post, I made a
spection in person in the month of August last of the late M
non Arsenal, Ala., (now directed to be called Mount Vernon
with the view of preparing economical and judicious estimate
tions necessary to convert, at an early day, bare workshops
ters, and an arsenal into barracks, that I might send there
now at Mobile. I trust the War Department may soon be ab
tion the estimates for these alterations, and grant authority f
in estimates for a hospital. The place (I cannot yet say the
at Mount Vernon is now occupied by the garrison from Mob
ing sought refuge there from the yellow fever now afflicting
The late Charleston Arsenal, hereafter to be called Charleston
is now occupied by a single company. I propose soon to i
post with the view of submitting estimates for such alterati
enable me to place there two, or at least one more company
further reduce the sum we are now paying for hire of quarter

The deputy quartermaster-general attached to this departm
report is herewith) states the United States to be indebted th
Quartermaster's Department, in the Department of the Sout
fiscal year ending June 30, 1873, as follows:

Incidental expenses ....
Barracks and quarters ....

He further states that as this amount was not for material
but for personal services, it is the decision of the War Depart
the creditors cannot be paid from the appropriations for this
must now look to Congress for relief.

The sum of $12,529.29, for what is known as "incidental ex
made up of small sums due to, mostly, poor people; $4,471.4
clerks authorized by the War Department; $683 to colored s
at five different posts; $1,881 to blacksmiths for shoeing the
cavalry, and quartermasters' horses at eighteen different pos
to soldiers at twenty-three posts for extra duty, pay allow
when on constant hard labor for more than ten days; $1,320
at twelve posts for rewards, allowed by law, for apprehens
serters.

The sum of $11,197.16 is mostly due for rent of buildings an
for barracks and quarters at twelve different posts—those
pied—it having been thought best to pay in full at those whic
to be abandoned. I am safe in saying that everything has
to insure as little liability under these heads as possible; th
it would have been much greater but for the reduction I hav
the number of posts. I am assured, and believe, that the va
assistant and acting assistant quartermasters have been prom

ıg in their estimates, and that these have been by the deputy quarter-aster-general promptly sent to the Quartermaster-General's Office.

I have no question, also, that the funds were remitted to the extent ıe appropriation permitted, and were distributed as soon as possible. only dwell on this subject because of the hardship I know it has ıused many deserving people, and of the discredit it has brought on ıe service, and to show that the indebtedness is not due to any want vigilance or fault on my part, or of those under me.

I send herewith the reports of the chiefs of the several staff departıents at department headquarters of the operations under their charge ıring the part year.

DEPARTMENT OF THE GULF.

I submit herewith the report of Col. W. H. Emory, commanding the epartment, for an account of the movement of troops and the state of ıe service in his command.

The duty devolving on the officers and men and their commander in ıis department during the past year has been of the most delicate, ıportant, and frequently embarrassing kind, and it gives me pleasure state that it has been discharged with tact, fidelity, and, in all cases, ith effect.

I have the honor to be, very respectfully, your most obedient servant,

IRWIN McDOWELL,
Maj. Gen. Commanding Division of the South.

The ASSISTANT ADJUTANT-GENERAL,
Headquarters of the Army, Washington, D. C.

REPORT OF MAJ. GEN. J. M. SCHOFIELD.

HEADQUARTERS MILITARY DIVISION OF THE PACIFIC,
San Francisco, Cal., November 3, 1873.

SIR: I have the honor to submit to the General of the Army the inosed reports of operations in this military division during the past ear.

The Division of the Pacific embraces the three Departments of Arona, California, and the Columbia.

The Department of Arizona, commanded by Bvt. Maj. Gen. George rook, lieutenant-colonel Twenty-third Infantry, since appointed brigaer general, has been the theater of active operations against hostile ıdians—operations characterized by consummate skill displayed in the ans of the departmental commander, and by gallantry and untiring ıergy of the officers and men engaged. With few exceptions the tely-hostile Apaches have been forced to submit to authority, and are ow living quietly upon the reservations assigned them.

Since the close of General Crook's campaign it has been found possie to diminish somewhat the cavalry force in that department, which ad been increased to insure his success.

Increased development and security have diminished the cost of supies for the troops.

The military telegraph to Prescott and Tucson, now nearly completed, eside its great military advantages, will facilitate commercial business ıd promote further development of the Territory.

The condition of Arizona is more hopeful than at any form
and great credit is due for this improvement to the depart
mander and his subordinates.

I respectfully refer to General Crook's report and the acco
documents for full and detailed information upon all matters
with his command.

The Department of the Columbia has been the scene of a co
remarkable in some respects than any before known in Am
tory. All the details of the Modoc war are so fully known t
ernment and to the public, through reports heretofore ma
would be superfluous to repeat them here.

The Department of the Columbia is now commanded by
Gen. Jefferson C. Davis, colonel Twenty-third Infantry, who
to that command upon the death of the lamented General Ca

General Davis's annual report has not yet been receive
headquarters.

The Department of California, under my immediate com
enjoyed uninterrupted peace during the past year. Near
troops, including the artillery, were engaged in the campai
the Modocs, and some of them have since been employed in
the prisoners and in conducting them to their destination i
partment of the Platte.

The inclosure marked A gives the strength and distribu
troops serving in the department.

The reports of the chiefs of staff departments, also inclosed
details of transactions in their separate departments.

Some changes in the stations of troops, rendered expedie
progress of events, will hereafter be made the subject of spe
accompanied by estimates of the expenditures necessary to
them.

Very respectfully, your obedient servant,

J. M. SCHOFIE
Major

The ASSISTANT ADJUTANT-GENERAL,
Headquarters of the Army, Washington, D. C.

REPORT OF MAJ. GEN. W. S. HANCOCK.

HEADQUARTERS MILITARY DIVISION OF THE ATLAN
New York City, September

SIR: I have the honor to submit for the information of t
of the Army my annual report for the division.

I was assigned to that command and to that of the Dep
the East by General Order No. 100, Headquarters of the Arm
ber 25, 1872, and pursuant to these orders assumed command
16, 1872.

General Order No. 105, Headquarters of the Army, Adjutan
Office, December 7, 1872, transferred the headquarters of th
from Philadelphia, Pa., to New York City.

The organization of the division has not been changed si
last annual report. Its aggregate in troops at date of last r
as follows:

Department of the East, 178 officers; enlisted men, 1,53 nent of the Lakes, 78 officers; enlisted men, 603; total, 256 officers, ,134 enlisted men.

I refer to my inclosed report, as commander of the Department of the East, for a detailed statement of operations in that command during he past year, and also refer for a similar purpose to inclosed annual report of the commander of the Department of the Lakes.

The attention of the General of the Army is respectfully invited to he remarks and recommendations contained in the concluding portion of my report, as commander of the Department of the East, relative to he urgent necessity for a military prison in that command, and which night serve as well for Department of the Lakes, and concerning the erection of some new buildings at certain posts in New York Harbor.

Having recently visited and inspected all the posts in the Department of the Lakes, I am able to concur in the remarks and recommendations of the commanding general of that department.

In reference to the reservation at Fort Gratiot, I may add, in addition o my approval of the views expressed in his report, that I think it unfortunate that the ground between the fort and the inlet of the straits hould have been ceded by Congress, and that with all the guards that nay be thrown around the deed of cession, I believe, for military purposes, the value of the reservation has been much impaired. I think, also, it would be better that the part of the light-house reservation authorized to be sold should be reserved for military purposes, as since he obstruction of the old reservation caused by the grant to the railroad company, I am not sure that it might not be as well to make that he defensive point instead of the present position.

I submit herewith a list of the military reservations in this division, showing when and how the land was secured to the Government, and now occupied at this date.

Fort Mackinac is an excellent place for the cantonment of troops intended for service on the upper lakes. It has no other importance at his date, as it cannot be made to protect the straits on which it is situted.

Plattsburg Barracks may also be used for the quartering of troops, out can serve no other military purpose not provided for by Fort Montgomery.

Carlisle is only important as a cantonment.

David's Island might advantageously be made a cantonment for the roops intended to occupy the forts in the East River, when completed.

As all of the reservations named in the accompanying list, save Fort Vilkins, Copper Harbor, Lake Superior, (now abandoned, and not mportant to the military service,) are deemed to be useful, it would in ny judgment be better to retain all, with that exception.

I inclose herewith reports of the chiefs of the several staff corps at hese headquarters.

The assistant inspector-general, having been absent for some time on a tour of inspection, has not been able to furnish his annual report. It vill be transmitted to your office as soon as practicable after his return o these headquarters.

I am, sir, very respectfully, your obedient servant,

WINF'D S. HANCOCK,
Maj. Gen., U. S. A., Commanding.

The ASSISTANT ADJUTANT-GENERAL,
Headquarters of the Army, Washington, D. C.

REPORT OF THE ADJUTANT-GENERAL.

Battalion quartermaster-sergeants.	First sergeants.	Sergeants.
1		34
		40
	12	60
	12	60
	12	60
	12	60
	12	60
	12	60
	12	60
	12	60
	12	60
	12	60
	120	600

being taken from the re
"total commissioned" a
ficers, but being include
l commissioned" and "a

68			
618	40	39	(b)

	Company quartermaster-sergeants.	Sergeants.
General officers		
Military secretary to the Lieutenant-G		
Aides-de-camp to general officers		
Adjutant-General's Department		
Inspectors-General		
Bureau of Military Justice		
Quartermaster's Department		
Subsistence Department		
Medical Department		
Pay Department		31
Corps of Engineers		39
Ordnance Department		
Chief Signal Officer		
Post chaplains		
First Regiment of Cavalry	9	58
Second Regiment of Cavalry	2	62
Third Regiment of Cavalry	2	55
Fourth Regiment of Cavalry	3	59
Fifth Regiment of Cavalry	7	59
Sixth Regiment of Cavalry	2	51
Seventh Regiment of Cavalry	6	56
Eighth Regiment of Cavalry	2	48
Ninth Regiment of Cavalry	6	42
Tenth Regiment of Cavalry	7	44
Aggregate of cavalry	46	534
First Regiment of Artillery		45
Second Regiment of Artillery		47
Third Regiment of Artillery		42
Fourth Regiment of Artillery		45
Fifth Regiment of Artillery		46
Aggregate of artillery		225
First Regiment of Infantry		28
Second Regiment of Infantry		38
Third Regiment of Infantry		39
Fourth Regiment of Infantry		41
Fifth Regiment of Infantry		43
Sixth Regiment of Infantry		42
Seventh Regiment of Infantry		42
Eighth Regiment of Infantry		38
Ninth Regiment of Infantry		37
Tenth Regiment of Infantry		39
Eleventh Regiment of Infantry		36
Twelfth Regiment of Infantry		38
Thirteenth Regiment of Infantry		35
Fourteenth Regiment of Infantry		42
Fifteenth Regiment of Infantry	1	36
Sixteenth Regiment of Infantry		38
Seventeenth Regiment of Infantry	1	42
Eighteenth Regiment of Infantry		40
Nineteenth Regiment of Infantry		37
Twentieth Regiment of Infantry		43
Twenty-first Regiment of Infantry	1	36
Twenty-second Regiment of Infantry		44
Twenty-third Regiment of Infantry		38
Twenty-fourth Regiment of Infantry		45
Twenty-fifth Regiment of Infantry		37
Aggregate of infantry	3	974

VED AT THE ADJUTANT-GENERAL'S OFFICE, 1873.

									TOTAL.		MILI
Trumpeters.	Musicians.	Farriers and blacksmiths.	Artificers.	Saddlers.	Wagoners.	Privates—first-class.	Privates—second class.	Privates.	Commissioned.	Enlisted.	Professors.
......	......	......	......	......	......	......	......	......	11	......	......
......	......	......	......	......	......	......	......	......	......	......	......
......	......	......	......	......	......	......	......	......	......	......	......
......	......	......	......	......	......	......	......	......	16	......	......
......	......	......	......	......	......	......	......	......	8	......	......
......	......	......	......	......	......	......	......	......	10	......	......
......	......	......	......	......	......	......	......	......	69	......	......
......	......	......	......	......	......	......	......	......	26	......	......
......	......	......	......	......	......	......	......	......	158	......	......
......	......	......	......	......	......	......	......	......	49	......	......
......	7	......	......	......	......	138	118	......	106	319	......
......	......	......	......	......	......	192	116	......	60	423	......
......	......	......	......	......	......	......	......	......	1	......	......
......	......	......	......	......	......	......	......	......	30	......	......
21	......	19	......	10	6	......	......	740	42	919	......
23	......	22	......	12	4	......	......	638	43	824	......
19	......	22	......	11	1	......	......	648	42	816	......
21	......	23	......	12	10	......	......	677	42	863	......
17	......	16	......	9	5	......	......	690	43	862	......
19	......	15	......	9	6	......	......	726	43	881	......
22	......	20	......	10	6	......	......	629	43	813	......
16	......	15	......	10	3	......	......	540	42	691	......
20	......	19	......	10	6	......	......	530	43	690	......
20	......	23	......	12	8	......	......	561	43	729	......
198	......	194	......	105	55	......	......	6,379	426	8,088	......
......	18	......	16	......	12	......	......	445	51	597	......
......	23	......	15	......	2	......	......	525	55	667	......
......	23	......	8	......	5	......	......	432	56	560	......
......	22	......	10	......	5	......	......	498	53	640	......
......	21	......	8	......	5	......	......	454	56	587	......
......	107	......	57	......	29	......	......	2,354	271	3,051	......
......	14	......	6	......	4	......	......	325	34	422	......
......	13	......	9	......	5	......	......	374	33	486	......
......	14	......	12	......	1	......	......	368	33	481	......
......	12	......	9	......	2	......	......	348	35	459	......
......	15	......	14	......	2	......	......	416	34	543	......
......	17	......	9	......	3	......	......	432	35	555	......
......	19	......	6	......	10	......	......	472	33	605	......
......	16	......	4	......	1	......	......	392	34	502	......
......	20	......	3	......	3	......	......	404	35	513	......
......	15	......	14	......	4	......	......	385	34	506	......
......	20	......	6	......	1	......	......	424	34	531	......
......	6	......	7	......	1	......	......	405	32	499	......
......	13	......	2	......	......	......	......	351	34	447	......
......	17	......	5	......	......	......	......	360	35	475	......
......	20	......	4	......	4	......	......	329	31	503	......
......	16	......	9	......	5	......	......	421	33	534	......
......	19	......	10	......	5	......	......	419	33	547	......
......	19	......	6	......	2	......	......	396	33	516	......
......	10	......	2	......	......	......	......	372	33	481	......
......	15	......	......	......	......	......	......	457	33	564	......
......	16	......	4	......	4	......	......	391	33	497	......
......	17	......	3	......	......	......	......	442	35	559	......
......	17	......	11	......	6	......	......	459	32	577	......
......	17	......	7	......	7	......	......	477	33	607	......
......	18	......	8	......	7	......	......	489	32	607	......
......	399	......	168	......	77	......	......	10,183	835	13,016	

REPORT

OF

THE ADJUTANT-GENERAL.

Memorandum of annual returns.

Table showing the "organization of the regular Army," marked A.

General return or exhibit of the actual strength of the regular Army, marked B.

Statement of the "position and distribution of troops," as follows:

- Military Division of the Missouri, comprehending the Departments of the Missouri, the Platte, Dakota, and Texas, marked C.
- Military Division of the Atlantic, comprehending the Departments of the East and the Lakes, marked D.
- Military Division of the Pacific, comprehending the Departments of California, the Columbia, and Arizona, marked E.
- Military Division of the South, comprehending the Departments of the South and the Gulf, marked F.

C.—*Position and distribution of troops in the Military Division of the Missou*
returns on file i

			GARRISONS.	
POSTS.	SITUATIONS.	COMMANDING OFFICERS.	Number of companies.	Regiment
DEPARTMENT OF THE MISSOURI.				Division st
Headquarters......	Fort Leavenworth, Kans	Brig. Gen. John Pope...	...	Departmen staff.
District of N. Mex.	Headquarters Santa Fé, N. Mex.	Col. J. I. Gregg, 8th Cav.	...	District st &c.
Fort Bayard, N. Mex.	Near Pinos Altos	Maj. W. R. Price, 8th Cav.	4	8th Cav. a 15th Inf.
Fort Craig, N. Mex.	On the Rio Grande......	Capt. J. H. Stewart, 15th Inf.	1	15th Inf..
Fork McRae, N. Mex.	35 miles south of Fort Craig.	Capt. S. B. M. Young, 8th Cav.	1	8th Cav ..
Fort Selden, N. Mex	On the Rio Grande......	Capt. E. W. Whittemore, 15th Inf.	3	8th Cav. a 15th inf.
Fort Stanton, N. Mex.	On the Rio Boniata, 9 miles from Placita.	Capt. Chambers McKibbin, 15th Inf.	2	....do ....
Fort Tulerosa, N. Mex.	114 miles west of Fort Craig.	Capt. George Shorkley, 15th Inf.	2	15th Inf..
Fort Union, N. Mex	5 miles from the Rio Moro	Maj. A. J. Alexander, 8th Cav.	4	8th Cav. ar 15th Inf.
Fort Wingate, N. Mex.	At the headquarters of the Rio Puerco.	Capt. J. P. Brown, 15th Inf.	3	....do ....
Fort Garland, Colo.	On Utah Creek, 150 miles from Kit Carson.	Capt. Horace Jewett, 15th Inf.	2	....do ....
Fort Lyon, Colo....	52 miles from Kit Carson	Maj. James Biddle, 6th Cav.	3	6th Cav. ar 3d Inf.
Camp Supply Ind. T	Near junction of Wolf and Beaver Creeks.	Lieut. Col. J. R. Brooke, 3d Inf.	6	6th Cav. and 5th I
Fort Dodge, Kans..	96 miles southwest of Hays City.	Maj. R. I. Dodge, 3d Inf,	6	....do ....
Fort Hays, Kans...	Near Hays City, on K. P. R. R.	Col. De L. Floyd Jones, 3d Inf.	2	3d Inf....
Fort Larned, Kans.	50 miles from Hays City	Capt. Simon Snyder, 5th Inf.	1	5th Inf ...
Fort Leavenworth, Kans.	3 miles above Leavenworth City.	Capt. D. H. Brotherton, 5th Inf.	6	3d and 5 Inf.
Fort Wallace, Kans	2 miles from Wallace Station, on K. P. R. R,	Capt. L. T. Morris, 3d Inf.	2	6th Cav. ar 3d Inf.
Summer Camp	Near Fort Hays, Kans..	Col. James Oakes, 6th Cav.	4	6th Cav ..
Total	....	....	52	....
DEPARTMENT OF THE PLATTE.				
Headquarters......	Omaha, Nebr............	Brig. Gen. E. O. C. Ord..	...	Departmen staff.
Omaha Barracks, Nebr.	4 miles above Omaha City.	Col. J. H. King, 9th Inf.	6	2d Cav., 4 and 9th I
Sidney Barracks, Nebr.	Near Sidney Station, on U. P. R. R.	Lieut. Col. G. A. Woodward, 14th Inf.	2	3d Cav. ar 14th Inf.
Fort McPherson, Nebr.	6 miles south of McPherson Station.	Col. J. J. Reynolds, 3d Cav.	5	3d Cav ....
Fort D. A. Russell, Wyo.	On the line of U. P. R. R.	Col. J. V. Bomford, 8th Inf.	9	3d Cav., 4t and 8th I
Fort Sanders, Wyo.	......do	Col. I. N. Palmer, 2d Cav.	4	2d and Cav.,and Inf.
Fort Fred. Steele, Wyo.	......do	Col. P. R. De Trobriand, 13th Inf.	4	2d Cav., 9 and 13th I
Fort Bridger, Wyo.	10 miles south of Carter's Station, on U. P. R. R.	Col. F. F. Flint, 4th Inf..	2	4th Inf ....

by Lieutenant-General P. H. Sheridan, headquarters Chicago, Illinois, taken from the latest General's Office, 1873.

PRESENT.																				ABSENT.							PRESENT AND ABSENT.		
Bureau of Military Justice.	Quartermaster's Department.	Subsistence Department.	Medical Department.	Pay Department.	Corps of Engineers.	Ordnance Department.	Post-chaplains.	Military store-keepers.	Colonels.	Lieutenant-colonels.	Majors.	Captains.	Regimental chaplains.	Regimental adjutants.	Regimental quartermasters.	Subalterns.	Enlisted men.	Total commissioned.	Aggregate.	General and staff officers.	Field and reg'tal staff officers.	Captains.	Subalterns.	Enlisted men.	Total commissioned.	Aggregate.	Commissioned officers.	Enlisted men.	Aggregate.
..	3	3	1	..	1	..	..	..	..	..	1	..	..	..	..	..	11	13	24	..	..	..	..	..	..	..	13	11	24
1	4	2	2	4	1	..	..	1	..	..	..	..	..	..	..	..	10	17	27	..	..	..	..	..	..	..	17	10	27
..	1	1	1	3	..	..	..	..	1	..	..	..	..	1	1	1	24	10	34	..		..	..	..	..	..	10	24	34
..	..	..	1	..	..	..	..	..	..	..	1	3	..	..	..	5	236	10	246	..	..	1	..	..	1	1	11	236	247
..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	49	2	51	..	..	..	..	2	..	2	2	51	53
..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	54	2	56	..	..	..	1	3	1	4	3	57	60
..	..	..	1	..	..	..	..	..	..	..	..	3	..	..	..	5	173	9	182	..	..	..	..	1	..	1	9	174	183
..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	3	120	5	125	..	..	..	..	1	..	1	5	121	126
..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	2	89	4	93	..	..	..	1	3	1	4	5	92	97
..	1	..	1	..	..	..	1	..	..	..	1	3	..	1	..	5	249	13	262	..	3	1	1	3	5	8	18	252	270
..	..	..	1	..	..	..	..	..	..	..	..	3	..	..	..	2	177	6	183	..	..	..	3	2	3	5	9	179	188
..	..	..	1	..	..	..	..	..	..	..	..	2	..	..	..	2	106	5	111	..	..	..	1	4	1	5	6	110	116
..	..	..	1	..	..	..	1	..	..	..	1	2	..	..	..	5	164	10	174	..	..	1	..	2	1	3	11	166	177
..	1	..	1	..	..	..	..	..	..	1	..	5	..	..	..	8	320	16	336	..	..	1	3	3	4	7	20	323	343
..	1	..	1	..	..	..	..	..	..	..	1	4	..	..	..	9	346	16	362	..	..	2	2	3	4	7	20	349	369
..	..	..	1	..	..	..	1	..	1	..	..	1	..	1	1	3	122	9	131	..	..	1	1	1	2	3	11	123	134
..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	1	55	3	58	..	..	..	..	..	..	..	3	55	58
..	..	..	1	..	..	..	..	..	..	..	..	4	..	1	1	12	338	19	357	..	3	2	..	5	5	10	24	343	367
..	..	..	..	..	..	..	1	..	..	..	..	2	..	..	..	3	117	6	123	..	..	..	1	..	1	1	7	117	124
..	..	..	..	..	..	..	..	..	1	..	1	3	..	1	1	6	304	13	317	..	1	1	2	15	4	19	17	319	336
1	8	3	14	7	1	..	4	1	3	1	5	42	..	5	4	74	3,053	175	3,228	..	7	10	16	48	33	81	208	3,101	3,309
1	3	2	2	4	1	1	..	..	..	..	..	..	..	..	..	..	10	16	26	..	..	..	..	..	..	..	16	10	26
..	..	..	1	..	..	..	1	..	1	..	2	6	..	1	1	8	361	21	382	..	..	..	2	9	2	11	23	370	393
..	..	..	1	..	..	..	..	..	..	1	..	2	..	..	..	4	120	8	128	..	..	..	..	3	..	3	8	123	131
..	..	..	..	..	..	..	..	..	1	..	1	4	..	1	1	7	386	15	401	..	2	1	3	15	6	21	21	401	422
..	..	..	1	..	..	..	1	..	1	..	2	8	..	1	1	14	456	29	485	..	..	1	2	10	3	13	32	466	498
..	..	..	1	..	..	..	..	..	1	1	..	4	..	1	1	7	333	16	349	..	..	..	1	11	1	12	17	344	361
..	..	..	1	..	..	..	..	..	1	..	..	3	..	1	1	7	213	14	227	..	1	1	..	2	2	4	16	215	231
..	..	..	1	..	..	..	..	..	1	..	..	1	..	..	1	4	100	[illegible]	108	..	1	1	..	..	2	2	10	100	110

C.—*Position and distribution o*

POSTS.	SITUATIONS.	COMMANDING OFFICERS.	GARRISONS.	
			Number of companies.	Regiment
DEPARTMENT OF THE PLATTE—Cont'd.				
Fort Laramie, Wyo.	89 miles north of Cheyenne, on U. P. R. R.	Col. J. E. Smith, 14th Inf.	7	2d Cav. a 14th Inf.
Fort Fetterman, Wyo.	170 miles from Cheyenne, on U. P. R. R.	Lieut. Col. Cuvier Grover, 3d Cav.	5	3d Cav. a 14th Inf.
Camp Brown, Wyo.	138 miles from Bryan, on U. P. R. R.	1st Lieut. J. B. Guthrie, 13th Inf.	1	13th Inf..
Camp Stambaugh, Wyo.	67 miles from Point of Rocks, on U. P. R. R.	Lieut. Col. A. G. Brackett, 2d Cav.	2	2d Cav. a 13th Inf.
Camp Douglas, Utah	3 miles east of Salt Lake City.	Lieut. Col. H. A. Morrow, 13th Inf.	7	....do ....
Beaver, Utah......	....	Lieut. Col. J. D. Wilkins, 8th Inf.	4	8th Inf ...
Camp on Laramie River, Wyo.	15 miles from Fort Laramie.	Capt. G. V. Henry, 3d Cav.	1	3d Cav ...
Cheyenne Depot, Wyo.	At Cheyenne............	Capt. T. B. Burrowes, 9th Inf.	1	9th Inf...
Total	....	....	60	....
DEPARTMENT OF DAKOTA.				
Headquarters......	Saint Paul, Minn.......	Brig. Gen. A. H. Terry ..	...	Departme staff.
Fort Snelling, Minn.	5 miles below Saint Paul.	Col. George Sykes, 20th Inf.	1	20th Inf..
Saint Paul, Minn...	....	Col. S. D. Sturgis, 7th Cav.	...	H'dq'rs 7 Cav.
Fort Ripley, Minn.	47 miles north of Sauk Rapids.	Capt. W. S. McCaskey, 20th Inf.	1	20th Inf..
Fort Abercrombie, Dak.	12 miles north of Breckenridge.	Capt. J. H. Patterson, 20th Inf.	1	....do ....
Fort Wadsworth, Dak.	On Kettle Lake.........	Maj. J. E. Yard, 20th Inf.	2	....do ...
Fort Totten, Dak..	On southeastern shore of Devil's Lake.	Lieut. Col. L. C. Hunt, 20th Inf.	2	....do ....
Fort Pembina, Dak.	On Red River of the North.	Capt. Loyd Wheaton, 20th Inf.	1	....do ....
Fort Randall, Dak .	On Missouri River, 146 miles above Sioux City, Iowa.	Capt. C. A. Webb, 22d Inf.	2	22d Inf...
Fort Sully, Dak....	On Missouri River, 318 miles above Sioux City, Iowa.	Capt. J. B. Irvine, 22d Inf.	2	....do ....
Fort Rice, Dak.....	On Missouri River, 50 miles below Edwinton.	Col. T. L. Crittenden, 17th Inf.	2	17th Inf..
Fort Stevenson, Dak.	On Missouri River, 125 miles above Fort Rice.	Lieut. Col. Daniel Huston, jr., 6th Inf.	2	6th Inf...
Fort Buford, Dak ..	On Missouri River, 300 miles above Fort Stevenson.	Col. W. B. Hazen, 6th Inf.	5	....do ....
Fort Seward, Dak..	At crossing of James River by N. P. R. R.	Capt. J. C. Bates, 20th Inf.	1	20th Inf..
Fort A. Lincoln, Dak	At crossing of Missouri River by N. P. R. R.	Lieut. Col. W. P. Carlin, 17th Inf.	2	6th Inf...
Camp Hancock, Dak	At Edwinton............	Capt. C. E. Clark, 17th Inf.	1	17th Inf.
Fort Shaw, Mont...	80 miles north of Helena	Lieut. Col. C. C. Gilbert, 7th Inf.	7	7th Inf...
Fort Ellis, Mont ...	3 miles from Bozeman...	Maj. N. B. Sweitzer, 2d Cav.	5	2d Cav. a 7th Inf.

ilitary Division of the Missouri, &c.—Continued.

	PRESENT.																			ABSENT.							PRESENT AND ABSENT.		
	Quartermaster's Department.	Subsistence Department.	Medical Department.	Pay Department.	Corps of Engineers.	Ordnance Department.	Post-chaplains.	Military store-keepers.	Colonels.	Lieutenant-colonels.	Majors.	Captains.	Regimental chaplains.	Regimental adjutants.	Regimental quartermasters.	Subalterns.	Enlisted men.	Total commissioned.	Aggregate.	General and staff officers.	Field and reg'l staff officers.	Captains.	Subalterns.	Enlisted men.	Total commissioned.	Aggregate.	Commissioned officers.	Enlisted men.	Aggregate.
	..	..	1	..	..	..	..	..	1	..	1	7	..	1	1	11	385	23	408	..	..	..	3	6	3	9	26	391	417
	..	..	..	..	..	..	..	..	..	1	..	5	..	..	..	8	244	14	258	..	..	..	2	7	2	9	16	251	267
	..	..	..	..	..	..	..	..	..	..	..	....	..	..	..	2	52	2	54	..	..	1	...	3	1	4	3	55	58
	..	..	..	..	..	..	1	..	..	1	..	1	..	..	..	4	113	7	120	..	..	1	...	....	1	1	8	113	121
	1	..	1	..	..	..	..	..	..	1	..	7	..	..	..	11	311	21	332	..	..	..	2	9	2	11	23	320	343
	..	..	1	..	..	..	..	..	..	1	..	3	..	..	..	7	211	12	223	..	..	1	1	3	2	5	14	214	228
	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	67	2	69	..	..	..	...	3	...	3	2	70	72
	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	46	2	48	..	..	..	1	1	1	2	3	47	50
1	4	2	11	4	1	1	3	..	7	6	6	53	..	6	7	96	3, 408	210	3, 618	..	4	7	17	82	28	110	238	3, 490	3, 728
1	3	2	1	5	1	..	..	1	..	..	1	....	..	..	..	...	11	17	28	..	..	..	...	....	...	....	17	11	28
	..	..	1	..	..	..	1	..	1	..	..	1	..	1	1	2	86	8	94	..	..	..	...	1	...	1	8	87	95
	..	..	..	..	..	..	..	..	1	..	1	....	..	..	1	...	20	3	23	..	2	..	...	....	2	2	5	20	25
	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	2	50	3	53	..	..	..	...	2	...	2	3	52	55
	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	2	52	3	55	..	..	..	...	2	...	2	3	54	57
	..	..	..	..	..	..	1	..	..	..	1	2	..	..	..	3	122	7	129	..	..	..	...	....	...	....	7	122	129
	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	4	114	6	120	..	..	1	...	1	1	2	7	115	122
	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	1	51	3	54	..	..	..	...	1	...	1	3	52	55
	..	..	1	..	..	..	..	..	..	..	..	2	..	..	..	2	99	5	104	..	..	..	1	1	1	2	6	100	106
	..	..	1	..	..	..	1	..	..	..	..	2	..	..	1	3	124	8	132	..	2	..	1	4	3	7	11	128	139
	1	..	1	..	..	..	..	..	1	..	..	2	..	1	1	4	122	11	133	..	..	..	...	....	...	....	11	122	133
	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	4	138	6	144	..	..	1	...	....	1	1	7	138	145
	..	..	1	..	..	..	..	..	1	..	..	4	..	1	1	8	341	16	357	1	..	1	2	2	4	6	20	343	363
	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	...	55	2	57	..	..	..	1	....	1	1	3	55	58
	1	..	..	..	..	..	..	..	..	1	..	1	..	..	..	3	107	6	113	..	..	1	1	2	2	4	8	109	117
	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	2	48	3	51	..	..	..	...	1	...	1	3	49	52
	..	..	..	..	..	..	..	..	..	1	..	5	..	1	1	12	414	20	434	..	1	2	1	10	4	14	24	424	448
	1	..	1	..	..	..	..	..	..	..	1	5	..	..	..	7	285	15	300	..	..	..	2	9	2	11	17	294	311

C.—*Position and distribution*

POSTS.	SITUATIONS.	COMMANDING OFFICERS.	GARRISON	
			Number of companies.	Regimen
DEPARTMENT OF DAKOTA—Cont'd.				
Fort Benton, Mont.	On Missouri River, 143 miles north of Helena.	Capt. T. S. Kirtland, 7th Inf.	1	7th Inf..
Camp Baker, Mont	18 miles northeast of Diamond City.	Capt. H. B. Freeman, 7th Inf.	1	....do ...
Lower Brulé agency, Dak.	80 miles above Fort Randall.	Capt. Joseph Bush, 22d Inf.	1	22d Inf..
Cheyenne agency, Dak.	7 miles above Fort Sully.	Capt. Carlisle Boyd, 17th Inf.	2	17th Inf.
Grand River agency, Dak.	90 miles above Fort Sully	Capt. Edward Collins, 17th Inf.	2	....do ...
In the field	On Yellowstone expedition.	Col. D. S. Stanley, 22d Inf.	29	7th Cav., 9, 17, & Inf.
Do.............	Escort to northern boundary survey.	Maj. M. A. Reno, 7th Cav.	3	7th Cav. 20th In
Total.........	....	....	76	
DEPARTMENT OF TEXAS.				
Headquarters......	San Antonio, Tex	Brig. Gen. C. C. Augur..	...	Departm staff.
Fort Bliss, Tex	Near Franklin, Tex.....	Capt. F. M. Coxe, 25th Inf.	1	25th Inf.
Fort Clark, Tex....	On Las Moras River, 126 miles west of San Antonio.	Col. R. S. Mackenzie, 4th Cav.	14	4th Cav., and 25th
Fort Concho, Tex..	At junction of the Main and North Conchos.	Lieut. Col. Wesley Merritt, 9th Cav.	6	9th and 1 Cav. 11th In
Fort Davis, Tex....	On the Limpia River, 466 miles northwest of San Antonio.	Maj. Z. R. Bliss, 25th Inf.	4	9th Cav. 25th In
Fort Duncan, Tex..	At Eagle Pass, on the Rio Grande.	Lieut. Col. W. R. Shafter, 24th Inf.	4	4th Cav. 24th In
Fort Griffin, Tex...	At Maxwell's Ranch....	Lieut. Col. G. P. Buell, 11th Inf.	5	10th Cav. 11th In
Fort McIntosh, Tex.	At Loredo	Capt. C. C. Hood, 24th Inf.	1	24th Inf.
Fort McKavett, Tex.	On San Saba River, 2 miles from its source.	Col. H. B. Clitz, 10th Inf.	7	9th Cav. 10th In
Fort Quitman, Tex.	On the Rio Grande, 80 miles below Franklin.	Capt. Charles Bentzoni, 25th Inf.	1	25th Inf .
Fort Richardson, Tex.	At Jacksboro'..........	Col. W. H. Wood, 11th Inf.	7	10th Cav. 11th In
Fort Stockton, Tex	At Comanche Springs...	Capt. E. G. Bush, 10th Inf.	4	9th Cav., and 25th
Ringgold Barracks, Tex.	At Rio Grande City.....	Col. Edward Hatch, 9th Cav.	8	9th Cav. 24th In
Austin, Tex	....	Capt. E. E. Sellers, 10th Inf.	1	10th Inf .
Fort Gibson, Ind. T.	Near junction of Neosho and Arkansas Rivers.	Lieut. Col. T. H. Neill, 6th Cav.	2	6th Cav. 5th Inf.
Fort Sill, Ind. T....	At junction of Medicine Bluff and Cache Creeks.	Lieut. Col. J. W. Davidson, 10th Cav.	8	10th Cav., and 25th
Fort Brown, Tex...	At Brownsville	Maj. H. C. Merriam, 24th Inf.	5	24th Inf .
Total	....	....	78	....
Grand total Military Division of the Missouri			266	....

ADJUTANT-GENERAL'S OFFICE.
Washington, D. C., October 10, 1873.

litary Division of the Missouri, &c.—Continued.

PRESENT.																			ABSENT.							PRESENT AND ABSENT.		
Quartermaster's Department.	Subsistence Department.	Medical Department.	Pay Department.	Corps of Engineers.	Ordnance Department.	Post-chaplains.	Military store-keepers.	Colonels.	Lieutenant-colonels.	Majors.	Captains.	Regimental chaplains.	Regimental adjutants.	Regimental quartermasters.	Subalterns.	Enlisted men.	Total commissioned.	Aggregate.	General and staff officers.	Field and reg'tal staff officers.	Captains.	Subalterns.	Enlisted men.	Total commissioned.	Aggregate.	Commissioned officers.	Enlisted men.	Aggregate.
.	..	1	..	..	..	..	..	..	..	..	1	..	..	..	2	59	4	63	..	..	..	..	....	....	....	4	59	63
.	..	..	..	..	..	..	..	..	..	..	1	..	..	..	2	52	3	55	..	..	..	..	3	...	3	3	55	58
.	..	..	..	..	..	..	..	..	..	..	1	..	..	..	2	46	3	49	..	..	..	..	....	....	....	3	46	49
.	..	..	..	..	..	..	..	..	..	..	2	..	..	..	4	100	6	106	..	..	..	..	....	....	....	6	100	106
.	..	..	..	..	..	..	..	..	..	..	2	..	..	..	2	107	4	111	..	..	..	..	....	....	....	4	107	111
1	..	1	..	..	..	..	..	1	2	2	23	..	1	..	49	1, 451	80	1, 531	..	..	6	6	182	12	194	92	1, 633	1, 725
.	..	..	..	..	..	..	..	..	..	1	3	..	..	..	5	192	9	201	..	..	..	1	3	1	4	10	195	205
8	2	10	5	1	..	3	1	5	6	7	64	..	5	6	125	4, 246	251	4, 497	1	5	12	16	224	34	258	285	4, 470	4, 755
2	..	1	5	..	1	..	1	..	1	..	....	..	..	..	...	10	13	23	1	..	..	..	....	1	1	14	10	24
.	..	..	..	..	..	..	..	..	..	..	1	..	..	..	2	58	3	61	..	..	..	..	1	...	1	3	59	62
.	..	1	..	..	..	..	..	1	..	3	12	..	1	1	15	950	34	984	..	..	2	9	11	11	22	45	961	1, 006
1	..	1	..	..	..	..	..	..	1	..	5	..	..	..	9	341	17	358	1	1	1	1	4	4	8	21	345	366
.	..	1	..	..	..	..	..	..	..	1	3	..	1	1	6	261	13	274	..	2	1	1	1	4	5	17	262	279
.	..	1	..	..	..	..	..	..	1	..	2	..	..	..	5	266	9	275	1	2	2	2	8	7	15	16	274	290
.	..	..	..	..	..	..	..	..	1	..	4	..	..	..	9	253	14	267	..	..	1	1	1	2	3	16	254	270
.	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	59	2	61	.	..	..	..	....	...	....	2	59	61
.	..	1	..	..	..	..	..	1	1	1	3	..	1	1	9	446	18	464	..	1	4	5	3	10	13	28	449	477
.	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	58	2	60	..	..	..	..	1	...	1	2	59	61
.	..	1	..	..	..	..	..	1	..	1	5	..	1	..	12	390	21	411	..	2	2	2	3	6	9	27	393	420
.	..	1	..	..	..	..	..	..	..	..	3	..	..	..	5	246	9	255	..	..	1	2	1	3	4	12	247	259
.	..	1	..	..	..	..	..	1	..	1	5	1	1	1	10	446	21	467	..	1	3	4	29	8	37	29	475	504
.	..	..	..	..	..	..	..	..	..	..	1	..	..	..	2	58	3	61	..	..	..	..	2	...	2	3	60	63
.	..	..	..	..	..	..	..	..	1	..	2	1	..	..	4	130	8	138	..	..	..	..	1	...	1	8	131	139
1	..	1	..	..	..	1	..	..	1	1	8	..	1	1	11	485	26	511	..	2	..	3	4	5	9	31	489	520
1	..	1	..	..	..	..	..	..	..	1	4	1	..	..	9	288	17	305	..	..	1	1	1	2	3	19	289	308
5	..	11	5	..	1	1	1	4	7	9	60	3	6	5	110	4, 745	230	4, 975	3	11	18	31	71	63	134	293	4, 816	5, 109
28	10	47	21	4	2	11	3	19	20	28	219	3	22	22	405	15, 463	879	16, 342	4	27	47	80	425	158	583	1, 037	15, 888	16, 925

E. D. TOWNSEND,
Adjutant-General.

D.—*Position and distribution of troops in the Military Division of the Atla*
returns on fil

POSTS.	SITUATIONS.	COMMANDING OFFICERS.	GARRISO	
			Number of companies.	Regime
DEPARTMENT OF THE EAST.				Divis'n
Headquarters	New York City, N. Y	Maj. Gen. W. S. Hancock.	...	Depart staff.
Fort Hamilton, N. Y.	In New York Harbor, N. Y.	Col. G. W. Getty, 3d Art.	4	3d Art
Fort Wadsworth, N. Y.	do	Maj. H. G. Gibson, 3d Art.	1	do
Fort Wood, N. Y.	do	Capt. Erskine Gittings, 3d Art.	1	do
David's Isl'd, New York.	do	Maj. R. V. W. Howard, 3d Art.	2	do
Plattsburgh Barracks, New York.	At Plattsburgh, N. Y	Capt. Richard Arnold, 5th Art.	1	5th Art
F't Trumbull, Conn	At New London, Conn.	Lieut. Col. F. T. Dent, 5th Art.	2	do
Fort Warren, Mass.	In Boston Harbor, Mass.	Capt. J. B. Rawles, 5th Art.	1	do
Fort Independence, Mass.	do	Maj. William Hays, 5th Art.	1	do
Fort Preble, Me.	On Spring Point, Cape Elizabeth, Me.	Maj. Truman Seymour, 5th Art.	1	do
Fort Sullivan, Me.	At Eastport, Me	Capt. E. C. Bainbridge, 5th Art.	1	do
Fort Adams, R. I.	In Newport Harbor, R. I.	Col. H. J. Hunt, 5th Art.	4	do
Fort McHenry, Md.	At Baltimore, Md.	Lieut. Col. W. H. French, 2d Art.	3	2d Art
Fort Foote, Md	On Potomac River, 8 miles below Washington City, D. C.	First Lieut. J. E. Eastman, 2d Art.	1	do
Fort Monroe, Va.	At Old Point Comfort, Va.	Col. W. F. Barry, 2d Art.	5	1st, 2d, 4th, & Art.
Total			28	
DEPARTMENT OF THE LAKES.				
Headquarters	Detroit, Mich.	Brig. Gen. P. St. George Cooke.	...	Depart staff.
Fort Wayne, Mich.	Three miles below Detroit, Mich.	Lieut. Col. P. Lugenbeel, 1st Inf.	3	1st Inf.
Fort Gratiot, Mich.	On the Saint Clair River, near outlet of Lake Huron, Mich.	Capt. T. N. Tolman, 1st Inf.	1	do
Fort Brady, Mich.	At Sault Ste. Marie, Mich.	Capt. Kinzie Bates, 1st Inf.	2	do
F't Mackinac, Mich	On Michilimackinac Island, Mich.	Capt. Leslie Smith, 1st Inf.	1	do
Fort Porter, N. Y.	At Buffalo, N. Y	Capt. I. D. De Russy, 1st Inf.	2	do
Fort Niagara, N. Y.	At Youngstown, N. Y.	First Lieut. James O'Hara, 3d Art.	1	3d Art
Fort Ontario, N. Y.	At Oswego, N. Y.	Capt. R. N. Scott, 3d Art.	1	do
Madison Barracks, N. Y.	Sackett's Harbor, N. Y.	Lieut. Col. R. B. Ayres, 3d Art.	2	3d Art. 1st In
Total			13	
Grand total Military Division of the Atlantic			41	

ADJUTANT-GENERAL'S OFFICE, *Washington, D. C., October* 10, 1873

Major-General W. S. Hancock, headquarters New York City, N. Y., taken from the latest
eneral's Office, 1873.

PRESENT.																			ABSENT.							PRESENT AND ABSENT.		
Quartermaster's Department.	Subsistence Department.	Medical Department.	Pay Department.	Corps of Engineers.	Ordnance Department.	Post-chaplains.	Military store-keepers.	Colonels.	Lieutenant-colonels.	Majors.	Captains.	Regimental chaplains.	Regimental adjutants.	Regimental quartermasters.	Subalterns.	Enlisted men.	Total commissioned.	Aggregate.	General and staff officers.	Field and reg'tal staff officers.	Captains.	Subalterns.	Enlisted men.	Total commissioned.	Aggregate.	Commissioned officers.	Enlisted men.	Aggregate.
1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	....	8	5	13	2	..	..	...	....	2	2	7	8	15
1	2	4	3	..	..	..	2	..	..	..	..	..	..	..	....	9	13	22	4	..	..	...	....	4	4	17	9	26
..	..	2	..	..	..	..	..	1	..	..	3	..	1	1	8	211	16	227	..	..	1	1	5	2	7	18	216	234
..	..	1	..	..	..	..	..	..	..	1	1	..	..	..	3	57	6	63	1	..	..	...	1	1	2	7	58	65
..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	3	48	5	53	..	..	..	..	1	....	1	5	49	54
..	..	1	..	..	..	..	..	..	..	1	2	..	..	..	3	78	7	85	..	..	..	3	1	3	4	10	79	89
..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	3	50	5	55	..	..	..	...	1	....	1	5	51	56
..	..	1	..	..	..	..	..	..	1	..	2	..	..	..	4	74	8	82	..	..	..	2	2	2	4	10	76	86
..	..	1	..	..	..	1	..	..	..	..	1	..	..	..	2	45	5	50	..	..	..	...	1	....	1	5	46	51
..	..	1	..	..	..	..	..	..	..	1	1	..	..	..	3	49	6	55	..	..	..	1	2	1	3	7	51	58
..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	1	34	3	37	..	..	1	2	....	3	3	6	34	40
..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	1	46	3	49	..	1	..	2	1	3	4	6	47	53
1	..	2	..	..	..	..	..	1	..	..	3	..	1	1	9	251	18	269	..	..	1	1	3	2	5	20	254	274
..	..	2	..	..	..	..	..	..	1	..	3	..	1	1	8	204	16	220	..	..	..	1	6	1	7	17	210	227
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	57	2	59	..	..	1	...	1	1	2	3	58	61
1	..	2	..	..	..	1	..	1	1	1	5	..	..	..	22	398	34	432	..	..	..	...	20	....	20	34	418	452
3	2	21	3	..	..	2	2	3	3	5	24	..	3	3	72	1,611	147	1,758	5	1	4	13	45	23	68	170	1,656	1,826
2	1	2	2	..	..	..	..	..	..	..	..	..	..	..	....	7	9	16	..	..	..	...	....	....	....	9	7	16
..	..	1	..	..	..	1	..	..	1	..	3	..	1	..	5	146	12	158	..	3	..	...	3	3	6	15	149	164
..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	2	45	4	49	..	..	..	...	....	....	....	4	45	49
..	..	1	..	..	..	..	..	..	..	..	2	..	..	..	3	76	6	82	..	..	..	1	....	1	1	7	76	83
..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	2	34	4	38	..	..	..	...	3	....	3	4	37	41
..	..	1	..	..	..	..	..	..	..	..	2	..	..	..	3	88	6	94	..	..	..	1	2	1	3	7	90	97
..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	2	52	3	55	..	..	1	...	1	1	2	4	53	57
..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	2	34	4	38	..	..	..	1	1	1	2	5	35	40
..	..	1	..	..	..	..	..	..	1	..	1	..	..	..	3	73	6	79	..	..	1	1	1	2	3	8	74	82
2	1	10	2	..	..	1	..	..	2	..	11	..	1	..	22	555	54	609	..	3	2	4	11	9	20	63	566	629
6	4	31	5	..	..	3	2	3	5	5	35	..	4	3	94	2,174	206	2,380	7	4	6	17	56	34	90	240	2,230	2,470

E. D. TOWNSEND, *Adjutant-General.*

E.—*Position and distribution of troops in the Military Division of the Pacific, c*
returns on file

POSTS.	SITUATIONS.	COMMANDING OFFICERS.	GARRISONS.	
			Number of companies.	Regiments.
DEPARTMENT OF CALIFORNIA.				
Headquarters	San Francisco, Cal	Maj. Gen. J. M. Schofield	...	Division sta Department staff.
Alcatraz Island, Cal.	In San Francisco Harbor	Maj. C. H. Morgan, 4th Art.	2	4th Art....
Angel Island, Cal	do	Maj. H. R. Mizner, 12th Inf.	...	Headq'rs 12th Inf.
Benicia Barracks, Cal.	At Benicia	Col. A. C. Gillem, 1st Cav.	3	1st Cav ....
Camp Bidwell, Cal	At north end of Surprise Valley.	Capt. R. F. Bernard, 1st Cav.	1	1st Cav ....
Camp Gaston, Cal	Near junction of Trinity and Klamath Rivers.	Lt. Col. A. D. Nelson, 12th Inf.	1	12th Inf....
Camp Independence, Cal.	In Owen's River Valley.	Capt. A. B. MacGowan, 12th Inf.	1	12th Inf....
Camp Wright, Cal	In Round Valley	Capt. E. C. Woodruff, 12th Inf.	1	12th Inf....
Point San José, Cal.	In San Francisco Harbor	Capt. John Mendenhall, 4th Art.	1	4th Art....
Presidio, Cal		Col. Horace Brooks, 4th Art.	4	4th Art....
Camp Halleck, Nev.	12 miles south of Halleck station, on Central Pacific Railroad.	Capt. M. H. Stacey, 12th Inf.	1	12th Inf....
Camp McDermit, Nev.	80 miles north of Winnemucca, on Central Pacific Railroad.	Capt. Henry Wagner, 1st Cav.	1	1st Cav ....
Fort Hall, Idaho	140 miles north of Corinne, Utah, on the Union Pacific Railroad.	Capt. J. L. Viven, 12th Inf.	1	12th Inf....
Total			17	
DEPARTMENT OF THE COLUMBIA.				
Headquarters	Portland, Oreg	Col. J. C. Davis, 23d Inf.	..	Department staff.
Camp Harney, Oreg	60 miles south of Cañon City.	Maj. Elmer Otis, 1st Cav.	1	21st Inf ....
Camp Warner, Oreg	15 miles west of Warner Lake.	1st Lt. S. P. Jocelin, 21st Inf.	1	21st Inf....
Fort Klamath, Oreg	Near Lake Klamath	Lt.-Col. Frank Wheaton, 21st Inf.	3	12th and 21s Inf.
Fort Stevens, Oreg.	Near mouth of Columbia River.	Capt. M. P. Miller, 4th Art.	1	4th Art....
Fort Colville, Wash.	Near boundary line between United States and British Columbia.	Capt. Evan Miles 21st Inf.	1	21st Inf ....
Fort Vancouver, Wash.	18 miles north of Portland Oregon.	Col. R. S. Granger, 21st Inf.	1	21st Inf....
Fort Walla-Walla, Wash.	In Walla-Walla Valley	Maj. John Green, 1st Cav	8	1st Cav. and 21st Inf.
San Juan Island, Wash.		1st Lt. J. A. Haughey, 21st Inf.	1	21st Inf....
Cape Disappointment, Wash.	At the mouth of the Columbia River.	Capt. F. G. Smith, 4th Art.	1	4th Art....
Fort Boisé, Idaho	Near Boisé City	Capt. G. M. Downey, 21st Inf.	1	21st Inf....
Fort Lapwai, Idaho.	12 miles from Lewiston	Capt. G. B. Sanford, 1st Cav.	2	1st Cav. and 21st Inf.
Sitka, Alaska		Maj. Joseph Stewart, 4th Art.	2	4th Art....
Total			23	

Major-General J. M. Schofield, headquarters San Francisco, California, taken from the latest tant-General's Office, 1873.

PRESENT.																				ABSENT.							PRESENT AND ABSENT.		
Bureau of Military Justice.	Quartermaster's Department.	Subsistence Department.	Medical Department.	Pay Department.	Corps of Engineers.	Ordnance Department.	Post-chaplains.	Military store-keepers.	Colonels.	Lieutenant-colonels.	Majors.	Captains.	Regimental chaplains.	Regimental adjutants.	Regimental quartermasters.	Subalterns.	Enlisted men.	Total commissioned.	Aggregate.	General and staff officers.	Field and reg'tal staff officers.	Captains.	Subalterns.	Enlisted men.	Total commissioned.	Aggregate.	Commissioned officers.	Enlisted men.	Aggregate.
..	2	2	..	..	1	..	..	1	..	..	..	..	..	..	..	....	10	9	19	..	..	..	...	....	....	....	9	10	19
1	1	1	1	4	..	..	..	..	..	..	..	..	..	..	..	....	10	9	19	..	..	..	...	....	...	....	9	10	19
..	..	..	..	..	..	..	..	..	..	..	1	2	..	..	..	2	103	5	108	..	..	..	3	2	3	5	8	105	113
..	..	..	..	..	..	..	1	..	..	..	1	..	..	1	1	....	25	4	29	..	1	..	...	....	1	1	5	25	30
..	..	..	1	..	..	..	..	..	1	1	..	2	..	1	..	5	204	11	215	..	..	1	3	4	4	8	15	208	223
..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	2	54	3	57	..	..	..	...	1	....	1	3	55	58
..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	55	2	57	..	..	1	1	2	2	4	4	57	61
..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	....	44	2	46	..	..	..	2	3	2	5	4	47	51
..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	2	54	3	57	..	..	..	...	1	...	1	3	55	58
..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	1	53	3	56	..	..	..	1	3	1	4	4	56	60
..	..	..	1	..	..	..	1	..	1	..	..	3	..	1	1	6	218	14	232	..	1	..	1	6	2	8	16	224	240
..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	2	36	4	40	..	..	..	...	4	....	4	4	40	44
..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	62	2	64	..	..	..	1	2	1	3	3	64	67
..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	56	2	58	..	..	..	...	1	....	1	2	57	59
1	1	1	5	4	..	..	3	..	2	2	2	14	..	3	2	23	974	64	1,038	..	2	2	12	29	16	45	80	1,003	1,083
..	1	1	1	3	..	..	..	..	..	..	..	..	..	..	..	....	9	7	16	..	..	..	...	....	....	....	7	9	16
..	..	..	..	..	..	..	1	..	..	..	1	1	..	..	..	1	52	4	56	..	..	..	1	1	1	2	5	53	58
..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	1	50	3	53	..	..	1	1	5	2	7	5	55	60
..	..	..	1	..	..	..	..	..	..	1	..	1	..	..	..	2	172	5	177	..	..	2	2	3	4	7	9	175	184
..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	57	2	59	..	..	..	1	5	1	6	3	62	65
..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	1	59	3	62	..	..	..	...	....	....	....	3	59	62
..	..	..	1	..	..	..	1	..	1	..	1	1	..	1	1	1	80	8	88	..	..	..	1	4	1	5	9	84	93
..	..	..	..	..	..	..	..	..	..	..	1	4	..	..	..	15	411	20	431	..	..	4	1	38	5	43	25	449	474
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	37	2	39	..	..	1	...	1	1	2	3	38	41
..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	50	2	52	..	..	..	1	....	1	1	3	50	53
..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	1	45	3	48	..	..	..	1	1	1	2	4	46	50
..	..	..	1	..	..	..	..	..	..	..	..	2	..	..	..	2	113	5	118	..	..	..	1	4	1	5	6	117	123
..	..	..	1	..	..	..	..	..	..	..	1	2	..	..	..	2	90	6	96	..	..	..	2	4	2	6	8	94	102
..	1	1	7	3	..	..	4	..	1	1	4	15	..	1	1	30	1,225	70	1,295	..	..	8	12	66	20	86	90	1,291	1,381

E.—*Position and distribution of*

POSTS.	SITUATIONS.	COMMANDING OFFICERS.	GARRISONS.	
			Number of companies.	Regiments.
DEPARTMENT OF ARIZONA.				
Headquarters	Prescott, Ariz	Lt.-Col. George Crook, 23d Inf.	...	Department staff.
Camp Apache, Ariz.	In White Mountain country.	Capt. G. M. Randall, 23d Inf.	3	5th Cav. and 23d Inf.
Camp Beale's Springs, Ariz.	43 miles east of Camp Mojave.	Capt. Thomas Byrne, 12th Inf.	1	12th Inf
Camp Bowie, Ariz.	At Apache Pass	Capt. S. S. Sumner, 5th Cav.	2	5th Cav. and 23d Inf.
Camp Grant, Ariz.	At the foot of Mount Graham.	Maj. W. B. Royall, 5th Cav.	5	5th Cav. and 23d Inf.
Camp Lowell, Ariz	Near Tucson, Ariz	Lt.-Col. E. A. Carr, 5th Cav.	3	5th Cav. and 23d Inf.
Camp McDowell, Ariz.	52 miles north of Maricopa Wells.	Capt. G. F. Price, 5th Cav	2	5th Cav. and 23d Inf.
Camp Mojave, Ariz.	Near the head of Mojave Valley.	Capt. E. F. Thompson, 12th Inf.	1	12th Inf
Camp Verde, Ariz.	38 miles from Prescott	Capt. J. W. Mason, 5th Cav.	3	5th Cav. and 23d Inf.
Fort Whipple, Ariz.	Near Prescott	Capt. James Burns, 5th Cav.	3	5th Cav. and 23d Inf.
Fort Yuma, Cal	At junction of the Gila and Colorado Rivers.	Capt. Charles Wheaton, 23d Inf.	1	23d Inf
New San Diego, Cal.		Capt. W. E. Dove, 12th Inf.	1	12th Inf
Total			25	
Grand total Military Division of the Pacific			65	

ADJUTANT-GENERAL'S OFFICE,
Washington, D. C., October 10, 1873.

Military Division of the Pacific, &c.—Continued.

PRESENT.																				ABSENT.							PRESENT AND ABSENT.		
Bureau of Military Justice.	Quartermaster's Department.	Subsistence Department.	Medical Department.	Pay Department.	Corps of Engineers.	Ordnance Department.	Post-chaplains.	Military store-keepers.	Colonels.	Lieutenant-colonels.	Majors.	Captains.	Regimental chaplains.	Regimental adjutants.	Regimental quartermasters.	Subalterns.	Enlisted men.	Total commissioned.	Aggregate.	General and staff officers.	Field and reg'tal staff officers.	Captains.	Subalterns.	Enlisted men.	Total commissioned.	Aggregate.	Commissioned officers.	Enlisted men.	Aggregate.
..	1	1	1	4	..	..	..	..	..	1	..	..	..	..	..	....	10	8	18	..	..	..	...	....	....	....	8	10	18
..	..	..	1	..	..	..	..	..	..	..	..	2	..	..	..	4	239	7	246	..	..	..	2	6	2	8	9	245	254
..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	53	2	55	..	..	..	1	2	1	3	3	55	58
..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	....	130	2	132	..	..	..	3	3	3	6	5	133	138
..	..	..	..	..	..	..	..	..	..	..	1	3	..	..	..	5	306	9	315	..	..	2	3	10	5	15	14	316	330
..	1	..	1	..	..	..	..	..	..	1	..	2	..	1	..	3	196	9	205	..	3	1	3	4	7	11	16	200	216
..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	2	131	3	134	..	..	1	1	3	2	5	5	134	139
..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	57	2	59	..	..	..	1	....	1	1	3	57	60
..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..	2	213	5	218	..	..	..	2	5	2	7	7	218	225
..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	4	183	5	188	1	..	2	...	7	3	10	8	190	198
..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	1	60	3	63	..	..	..	1	....	1	1	4	60	64
..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	....	40	1	41	..	..	..	1	2	1	3	2	42	44
..	2	1	4	4	..	..	..	..	..	2	1	18	..	1	..	23	1, 618	56	1, 674	1	3	6	18	42	28	70	84	1, 660	1, 744
1	6	5	16	11	1	..	7	1	3	5	7	47	..	5	3	76	3, 827	199	4, 026	1	5	16	42	137	64	201	263	3, 964	4, 227

E. D. TOWNSEND, *Adjutant-General.*

F.—*Position and distribution of troops in the Military Division of the South, command*
on file in the Adju

POSTS.	SITUATIONS.	COMMANDING OFFICERS.	GARRISONS.		PRESE		
			Number of companies.	Regiments.	General officers.	Military secretary.	Aides-de-camp.
DEPARTMENT OF THE SOUTH.				Division staff.	1	..	2
Headquarters	At Louisville, Ky	Maj. Gen. I. McDowell	...	Department staff.	..	..	..
Frankfort, Ky		Capt. C. R. Layton, 16th Inf.	1	16th Inf.	..	..	..
Lebanon, Ky		Capt. C. E. Morse, 16th Inf.	1	16th Inf.	..	..	..
Lancaster, Ky		Capt. J. S. Fletcher, 16th Inf.	1	16th Inf.	..	..	..
Nashville, Tenn		Lieut. Col. Jas. Van Voast, 16th Inf.	2	16th Inf.	..	..	..
Humboldt, Tenn		Capt. H. A. Theaker, 16th Inf.	1	16th Inf.	..	..	..
Chattanooga, Tenn		Capt. H. C. Cook, 2d Inf.	1	2d Inf.	..	..	..
Mobile, Ala		Lieut. Col. T. C. English, 2d Inf.	2	2d Inf.	..	..	..
Huntsville, Ala		Capt. W. F. Drum, 2d Inf.	1	2d Inf.	..	..	..
Saint Augustine, Fla.		Capt. M. A. Cochrane, 2d Inf.	2	2d Inf.	..	..	..
Fort Pulaski, Ga	At mouth of Savannah River.	Capt. R. T. Frank, 1st Art.	2	1st Art	..	..	..
Savannah, Ga		Capt. H. W. Closson, 1st Art.	1	1st Art	..	..	..
Atlanta, Ga		Maj. W. H. Brown, 18th Inf.	6	2d & 18th Inf.	..	..	..
Fort Macon, N. C	In Beaufort Harbor	Maj. H. A. Allen, 2d Art.	2	2d Art	..	..	..
Fort Johnston, N. C.	At Smithville	Capt. A. C. M. Pennington, 2d Art.	1	2d Art	..	..	..
Raleigh, N. C		Maj. J. C. Tidball, 2d Art.	3	2d Art	..	..	..
Charleston, S. C		Col. Israel Vodges, 1st Art.	3	1st & 2d Art	..	..	..
Columbia, S. C		Lieut. Col. H. M. Black, 18th Inf.	6	18th Inf.	..	..	..
Yorkville, S. C		Capt. John Christopher, 18th Inf.	1	18th Inf.	..	..	..
Newberry, S. C		Capt. Jas. Stewart, 18th Inf.	1	18th Inf.	..	..	..
Total			38		..	..	..
DEPARTMENT OF THE GULF.							
Headquarters	At New Orleans, La	Col. W. H. Emory, 5th Cav.	...	Department staff.	..	..	3
Jackson Barracks, La.	do	Col. C. H. Smith, 19th Inf.	3	19th Inf.	..	..	..
Baton Rouge, La		Capt. H. E. Stansbury, 19th Inf.	2	19th Inf.	..	..	..
Alexandria, La		Capt J. H. Smith, 19th Inf.	2	19th Inf.	..	..	..
Greenwood, La		Capt. J. H. Bradford, 19th Inf.	2	19th Inf.	..	..	..
Saint Martinsville, La.		Capt. C. W. Hotsenpiller, 19th Inf.	1	19th Inf.	..	..	..
Fort Barrancas, Fla.	In Pensacola Harbor	Maj. J. M. Brannan, 1st Art.	3	1st Art	..	..	..
Key West, Fla		Capt. W. M. Graham, 1st Art.	2	1st Art	..	..	..
Fort Jefferson, Fla.	At the Garden Key, Tortugas.	Capt. L. L. Langdon, 1st Art.	1	1st Art	..	..	..

Major-General Irvin McDowell, headquarters Louisville, Kentucky, taken from the latest returns General's Office, 1873.

PRESENT.																				ABSENT.							PRESENT AND ABSENT.		
Bureau of Military Justice.	Quartermaster's Department.	Subsistence Department.	Medical Department.	Pay Department.	Corps of Engineers.	Ordnance Department.	Post-chaplains.	Military store-keepers.	Colonels.	Lieutenant-colonels.	Majors.	Captains.	Regimental chaplains.	Regimental adjutants.	Regimental quartermasters.	Subalterns.	Enlisted men.	Total commissioned.	Aggregate.	General and staff officers.	Field and reg'tal staff officers.	Captains.	Subalterns.	Enlisted men.	Total commissioned.	Aggregate.	Commissioned officers.	Enlisted men.	Aggregate.
..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	4	10	..	..	..	..	..	..	..	4	6	10
1	..	..	1	4	..	..	..	..	..	..	..	..	..	..	..	..	8	6	14	..	..	..	..	..	..	..	6	8	14
..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	54	2	56	..	..	..	1	2	1	3	3	56	59
..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	1	57	3	60	..	..	..	1	1	1	2	4	58	62
..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	2	45	3	48	..	..	..	..	..	..	..	3	45	48
..	..	..	1	..	..	..	..	..	..	1	..	2	..	1	1	3	120	9	129	..	1	..	1	4	2	6	11	124	135
..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	2	51	4	55	..	..	..	..	1	..	1	4	52	56
..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	2	39	4	43	..	..	..	..	1	..	1	4	40	44
..	..	..	1	..	..	..	..	..	..	1	..	2	..	1	1	4	122	10	132	..	1	..	..	2	1	3	11	124	135
..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	2	51	4	55	..	..	..	..	..	..	..	4	51	55
..	..	..	1	..	..	..	..	..	..	..	..	2	..	..	..	1	90	4	94	..	..	..	2	..	2	2	6	90	96
..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	3	100	5	105	..	..	1	2	4	3	7	8	104	112
..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	2	53	4	57	..	..	..	1	1	1	2	5	54	59
..	1	..	1	..	..	..	1	..	..	..	1	4	..	..	..	9	289	17	306	..	..	2	1	5	3	8	20	294	314
..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	4	104	6	110	..	..	1	2	..	3	3	9	104	113
..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	2	58	4	62	..	..	..	..	3	..	3	4	61	65
..	1	..	1	..	..	..	..	..	..	..	1	1	..	..	..	4	151	8	159	..	..	2	4	5	6	11	14	156	170
..	..	..	1	..	..	..	..	..	1	..	..	2	..	1	1	7	183	13	196	..	..	1	3	7	4	11	17	190	207
..	..	..	..	..	..	..	..	..	..	1	..	4	..	1	..	10	316	16	332	1	2	2	..	5	5	10	21	321	342
..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	2	43	4	47	..	..	..	..	4	..	4	4	47	51
..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	2	49	3	52	..	..	..	..	3	..	3	3	52	55
1	2	..	15	4	..	..	1	..	1	3	3	29	..	4	3	63	1,983	129	2,112	1	4	9	18	48	32	80	161	2,031	2,192
..	1	1	1	2	..	..	..	..	1	..	..	..	..	..	..	..	8	7	15	..	..	..	..	..	..	..	7	8	15
..	..	..	1	..	..	..	..	..	1	..	..	3	..	..	1	4	166	10	176	..	2	..	1	2	3	5	13	168	181
..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	3	97	5	102	..	1	1	1	..	3	3	8	97	105
..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	4	88	5	93	..	..	1	..	3	1	4	6	91	97
..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	3	80	5	85	..	..	..	..	6	..	6	5	86	91
..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	41	2	43	..	..	..	1	..	1	1	3	41	44
..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	3	114	5	119	..	..	3	5	4	8	12	13	118	131
..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	1	78	3	81	..	..	1	4	5	5	10	8	83	91
..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	57	1	58	..	..	..	2	1	2	3	3	58	61

F.—*Position and distribution of troops in*

POSTS.	SITUATIONS.	COMMANDING OFFICERS.	GARRISONS.		PRESEN			
			Number of companies.	Regiments.	General officers.	Military secretary.	Aides-de-camp.	Adjutant-General's Dep't.
DEPARTM'T OF THE GULF—Cont'd.								
Jackson, Miss		Maj. S. A. Wainwright, 16th Inf.	3	16th Inf.	..	..	..	..
Little Rock, Ark		Capt. T. E. Rose, 16th Inf.	1	16th Inf.	..	..	..	..
Total			20		..	..	3	1
Grand total Military Division of the South			58		1	..	5	2

ADJUTANT-GENERAL'S OFFICE,
Washington, D. C., October 10, 1873.

ilitary Division of the South, &c.—Continued.

PRESENT.																			ABSENT.							PRESENT AND ABSENT.		
uartermaster's Departmen	Subsistence Department.	Medical Department.	Pay Department.	Corps of Engineers.	Ordnance Department.	Post-chaplains.	Military store-keepers.	Colonels.	Lieutenant-colonels.	Majors.	Captains.	Regimental chaplains.	Regimental adjutants.	Regimental quartermasters.	Subalterns.	Enlisted men.	Total commissioned.	Aggregate.	General and staff officers.	Field and reg'tal staff officers.	Captains.	Subalterns.	Enlisted men.	Total commissioned.	Aggregate.	Commissioned officers.	Enlisted men.	Aggregate.
..	..	..	..	..	..	..	..	..	..	1	3	..	..	..	4	136	8	144	..	..	..	....	8	...	8	8	144	152
..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	2	60	3	63	..	..	..	....	....	...	....	3	60	63
1	1	5	2	..	..	..	..	2	..	2	14	..	..	1	25	925	54	979	..	3	6	14	29	23	52	77	954	1,031
4	2	20	6	..	..	1	..	3	3	5	43	..	4	4	88	2,914	187	3,101	1	7	15	32	77	55	132	242	2,991	3,233

E. D. TOWNSEND,
Adjutant-General.

WAR DEPARTMENT,
Adjutant-General's Office, October 7, 18

SIR: My report of October 7, 1872, referred to the *re-estab*
business of the late Bureau of Refugees, Freedmen, and Aband
Lands, and recited the regulations for conducting it. The said re
tions have proved well adapted to their object, and the results obt
are, in a high degree, satisfactory.

In addition to the disbursing offices established under War De
ment General Orders No. 79, of 1872, it has been found expedie
establish others: At Fort Monroe, Virginia; Forts Macon and John
North Carolina; Charleston, South Carolina; and Savannah, Georgi
the payments to claimants residing at and near to those points, th
enabling them to receive the amounts due them, with comparatively
expense to themselves and a considerable saving to the Governme

For the thirteen offices now open, the force employed is, 13 co
sioned officers, 30 clerks, and 10 messengers and janitors.

The officers in charge of the offices at Forts Monroe, Maco
Johnston, Charleston, and Savannah, attend to their ordinary pos
company duties in addition.

The *discovery* of claimants who, since filing their claims, have ch
their places of residence, many of them to other States, has, in
instances, proved extremely difficult, but through diligent effort o
part of the disbursing officers, who have availed themselves of all
ticable means to attain that end, they have succeeded in ascerta
the whereabouts of a considerable number, and in securing to the
amounts awarded in settlement of their claims.

It was also ascertained that numerous claimants were living at
remote from either of the established paying districts, and th
secure payment to them through any one of the disbursing o
would be impossible, without entailing expenses largely dispropo
ate to the amounts involved. A plan was therefore submitted
led to an arrangement, by the Secretary of War with the Postm
General, for the payment of such claimants through the postmas
or nearest to their respective places of residence. A number
already been paid in this way, and the system is found to work f
bly. As a further aid to the "discovery of the claimants," a ci
letter, copy herewith, A, dated March 18, 1873, was sent to certai
ators and Representatives. Resort was also had to advertising.

Early in the month of December, 1872, it was discovered that
borne upon the records of the late Bureau of Refugees, Freedme
Abandoned Lands as *paid*, were, in fact, unpaid, while others bo
unpaid had actually been paid. It therefore became necessary
once subject said records to a careful examination and compariso
those of the accounting officers of the Treasury, in order that all
sary emendations might be made and the work of payment be
proceeded with. This labor occupied about one month, during
period all payments were necessarily suspended. Until the discov
the errors referred to, the disbursing officer stood in constant da
making duplicate payments, or of rejecting just claims.

By the act of March 3, 1873, entitled "An act to place colored p
who enlisted in the Army on the same footing as other soldiers
bounty and pension," a very large number of colored ex-soldier
become entitled to bounty, of which they had hitherto been depri
reason of their having been "slaves" April 19, 1861. Claims und
act are filing in the Office of the Second Auditor of the Tre
and a few certificates in settlement have already been received a

ffice. When such claims come, as they undoubtedly will, to be numerously settled, the labors of this office will, of course, be proportionately nlarged.

The missing and defective records of the late Bureau have, to a limted extent, been supplied by the late Commissioner, eighteen packages, ontaining records of various descriptions, including books of "Letters eceived," "Letters sent," and "Indorsements," "Bounty registers," iles of letters, claims, soldiers' discharges, &c., having been received. The bulk, however, of those indicated to the late Commissioner by letter of January 18, 1873, has not been produced.

The discontinuance, under the circular of August 8, 1872, of the *proscution* of claims for bounties or other moneys due to colored soldiers and others, has resulted favorably to the Government by a large saving of expenses.

Correspondence has been had with the late Commissioner from time o time, relative to subjects involved in his administration of the late Bureau.

I respectfully submit, as a part of this communication, my reports dated February 20, 1873, August 4, 1873, and September 23, 1873, (now before the War Department,) which relate, respectively, to the condition of the affairs of the late Bureau, and the responsibility and accountability of the late Commissioner.

The tabular exhibits herewith, submitted by the chief disbursing officer, will indicate the financial operations during the fiscal year ending June 30, 1873, and to August 31, 1873.

Very respectfully, general, your obedient servant,

THOMAS M. VINCENT,
Assistant Adjutant-General.

The ADJUTANT-GENERAL OF THE ARMY,
Washington, D. C.

Approved and respectfully submitted to the Secretary of War.

E. D. TOWNSEND,
Adjutant-General.

(A.)

WAR DEPARTMENT, ADJUTANT-GENERAL'S OFFICE,
Washington, March 18, 1873.

To Senators and Representatives from States wherein claimants were believed to be.]

SIR: I have the honor to inform you that all colored soldiers or sailors, or their egal representatives, who have received notice from the Treasury Department that ertificates have been issued in settlement of their claims for pay, bounty, prize-money, &c., and who have not received the amounts due them, can now be paid promptly, without further expense to claimants, so soon as this Office shall have learned the postffice address.

Therefore, I respectfully request that you will inform claimants within your reach, and request them to send their names, with post-office address, and the designation of he company and regiment in which the service was rendered, to the Adjutant-General United States Army, Washington, D. C.

It should be distinctly understood that a claimant need not send his or her name, &c., unless he or she shall have been notified from the Treasury Department that a ertificate in his or her favor has been issued, this Office not having to do with cases prior to that action.

Your aid in the matter, as indicated, will not only benefit the colored claimants, but prove advantageous to the public service.

Very respectfully, your obedient servant,

E. D. TOWNSEND,
Adjutant-General.

WAR DEPARTMENT, ADJUTANT-GENERAL'S OFFICE,
CHIEF DISBURSING OFFICE, FREEDMEN'S BRANCH,
Washington, D. C., October 7, 18

MAJOR: I have the honor to submit herewith tabular exhibits o financial operations of the disbursing office of the freedman's br of the Adjutant-General's Office in the payment of pay, bounty, p money, and other moneys due to colored soldiers, sailors, &c., u joint resolution of March 29, 1867, for the fiscal year ending Jun 1873, and embodying also a separate exhibit of the like operations July 1 to August 31, 1873.

Of the amount ($100,000) appropriated by Congress to defray expenses attending the payment of bounties, &c., for the year en June 30, 1873, there has been expended the sum of $58,450.06, lea an unexpended balance of $41,549.94.

Much attention has been given to the systematizing of the ge work, and under the system, as now perfected, all settled claims ca paid without any delay, other than that preceding the discovery identification of the claimants.

Very respectfully, your obedient servant,

JAMES McMILLAN,
Capt. Third Artillery, Chief Disbursing Offic

Maj. THOMAS M. VINCENT,
Assistant Adjutant-General.

Date.	PAY, BOUNTY, PRIZE-MONEY, ETC., DUE COLORED SAILORS AND MARINES, OR THEIR HEIRS.				COMMUTATION OF RATIONS DUE COLORED SOLDIERS.			
	Amount received.	Amount disbursed.			Amount received.	Amount disbursed.		
		James McMillan, capt. 3d Art'y, Washington, D. C.	A. K. Arnold, maj. 6th Cav., New Orleans, La.	Total.		James McMillan, capt. 3d Art'y, Washington, D. C.	R. S. La Motte, maj. 13th Inf'y, Nashville, Tenn.	Total.
July, 1872	$4,159 84							
August, 1872								
September, 1872								
October, 1872								
November, 1872								
December, 1872								
January, 1873					$453 75			
February, 1873		$1 99		$1 99				
March, 1873	225 51				55 20			
April, 1873	1,706 24	30 00		30 00				
May, 1873	35 87	5 00	$60 00	65 00	112 00			
June, 1873	139 59	1,337 63		1,337 63	55 50		$34 50	$34 50
		1,374 62	60 00	1,434 62			34 50	34 50
On hand July 1, 1873		4,780 93	51 50	4,832 43		$586 75	55 25	642 00
In transit								
	6,267 05	6,155 55	111 50	6,267 05	676 50	586 75	89 75	676 50

Supplemental abstract of receipts and disbursements for the months of July and August, 1873—Continued.

Date.	Amount received.	James McMillan, capt. 3d Art'y, Washington, D. C.	A. K. Arnold, maj. 6th Cav., New Orleans, La.	Total.	Amount received.	James McMillan, capt. 3d Art'y, Washington, D. C.	R. S. La Motte, maj. 13th Inf'y, Nashville, Tenn.	Total.
Balance July 1, 1873	4,832 43				642 00			
July, 1873	120 85	2 60		2 60				
August, 1873		24 48		24 48				
		27 08		27 08				
In transit								
On hand September 1, 1873		4,874 70	$51 50	4,926 20				642 00
	4,953 28	4,901 78	51 50	4,953 28	642 00			642 00

eport of the recruiting service from October 1, 1872, *to October* 1, 1873.

WAR DEPARTMENT, ADJUTANT-GENERAL'S OFFICE,
Washington, October 14, 1873.

Recruiting for cavalry, artillery, and infantry has been carried on ıring the past year in the principal northern and western, and in a few ' the southern cities. Owing, however, to the limited sums appropri-ed for this service for the last fiscal year, several rendezvous which ight have been maintained in small towns as branches to those located the large cities have been discontinued. On the same account it as found necessary to diminish the number of enlistments by raising ıe standard of height for artillery and infantry recruits, in order to eep down the expenses of the recruiting service. From this cause the giments became reduced in number at the very season for active op-ations, and the Department had not the means to strengthen them.

The appropriation for the present year, reduced upon the original stimate made by this Office, will towards the close of the year again run ıort. Meantime, however, every effort will be made to fill the regi-ents to the standard allowed.

Two rendezvous for organizations on the Pacific coast are maintained ıder the supervision of the commanding general, Military Division of e Pacific, but the number of men there enlisted is insufficient to keep the strength of the organizations in that section of the country.

There is a rendezvous for the Corps of Engineers in New York City, ıder charge of an officer of that corps.

With the exception of those stationed on the Pacific coast, and those cruiting for the Battalion of Engineers, all recruiting officers enlist for ıe colored regiments.

A few officers located in cities where there are stations for the signal-rvice also enlist men for that arm of the service.

E. D. TOWNSEND,
Adjutant-General.

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atement showing the number of enlistments and re-enlistments in the Regular Army from October 1, 1872, to October 1, 1873; compiled from reprots forwarded to this Office by superin-endents of the recruiting service, &c.

Regiments, &c.	Number en-listed and re-enlisted.	Regiments, &c.	Number en-listed and re-enlisted.	Regiments, &c.	Number en-listed and re-enlisted.
neral service	4, 131	Ninth Cavalry	41	Eleventh Infantry	34
unted service	3, 419	Tenth Cavalry	131	Twelfth Infantry	10
gineer Battalion	177	First Artillery	69	Thirteenth Infantry	9
lnance Department	105	Second Artillery	88	Fourteenth Infantry	8
litary Academy	37	Third Artillery	105	Fifteenth Infantry	19
tillery School	1	Fourth Artillery	65	Sixteenth Infantry	63
nal Corps	209	Fifth Artillery	56	Seventeenth Infantry	3
lnance sergeants	2	First Infantry	73	Eighteenth Infantry	16
spital-stewards	21	Second Infantry	47	Nineteenth Infantry	131
st Cavalry	28	Third Infantry	62	Twentieth Infantry	30
ond Cavalry	72	Fourth Infantry	53	Twenty-first Infantry	27
ird Cavalry	45	Fifth Infantry	88	Twenty-second Infantry	2
ırth Cavalry	25	Sixth Infantry	0	Twenty-third Infantry	7
th Cavalry	7	Seventh Infantry	11	Twenty-fourth Infantry	1
th Cavalry	70	Eighth Infantry	34	Twenty-fifth Infantry	9
enth Cavalry	114	Ninth Infantry	39		
ghth Cavalry	34	Tenth Infantry	13	Total	9, 841

ote.—Of the recruits enlisted for mounted service, 693 were for colored cavalry.

E. D. TOWNSEND,
Adjutant-General.

VAR DEPARTMENT, ADJUTANT-GENERAL'S OFFICE,
Washington, October 4, 1873.

Applications for troops from October 10, 1872, *&c.*—Continued.

ice-mark.	Applicant.	For what purpose required.
03—73....	Superintendent of Indian affairs, Montana.	Protection of Crow agency from Sioux and other hostile Indians.
18—73....	P. W. Perry, supervisor internal revenue, district of Virginia, West Virginia, Georgia, North Carolina, South Carolina, and Florida.	Assistance in breaking up illicit distilleries.
51—73....	Citizens of Idaho..................	For protection against Indians.
13—73....	Secretary of the Treasury.........	Escort to treasure party between San Francisco and Omaha.
53........	..........do	Escort to treasure party from Fort Yuma to Tucson, Ariz.
01........	..........do	Escort to treasure party from Kansas City, Mo., to Santa Fé, N. Mex.
83—73....	United States deputy marshal in Kentucky.	For assistance in making arrests.
92—73....	Bishop Rundell, of Colorado.......	For more troops in Wyoming Territory.
54—73....	Interior Department...............	Escort to governor of Texas and staff from Boggy Depot to Fort Sill to attend Indian council.
86—73....	..........do	For protection of Government property on Bannock and Shoshone reservation.
03—73....	..........do	To support agent at Red Cloud and Whetstone agencies.
92—73....	Citizens of Knox County, Nebraska.	For protection from Indians.

REPORT OF THE INSPECTOR-GENERAL.

REPORT

OF

THE INSPECTOR-GENERAL.

WAR DEPARTMENT, INSPECTOR-GENERAL'S OFFICE,
Washington, October 10, 1873.

SIR: The inspection service of the Army during the past year has
een performed in conformity with the requirements of General Orders
o. 87, series of 1872, the five inspectors-general having been exclu-
vely subject to the orders of the Secretary of War and the General of
e Army.

My own duties, for the most part, have been confined to the charge of
e Inspector-General's Office, at the headquarters of the Army, receiv-
g and examining inspection reports, and extracting therefrom all mat-
rs of interest to, or requiring action by, the Secretary of War, the
eneral of the Army, and the heads of the different bureaus of the War
epartment; and it is believed that much important information has
us been communicated which would not otherwise have come to the
owledge of those officials.

Inspectors-General D. B. Sacket, E. Schriver, N. H. Davis, and J. A.
ardie, during the autumn of 1872 and the winter of 1872 and 1873,
ade careful and thorough inspections of the Department of the South,
part of the Department of Texas, the entire Department of the Mis-
uri, and the Department of the Gulf.

Early in the spring of 1873 these officers, under orders from the Sec-
tary of War, commenced the inspection of the Departments of Arizona,
exas, Dakota, and the Columbia, thoroughly examining into the con-
tion of the *personnel* and *materiél* of the Army at all the remote and wide-
dispersed posts, stations, and depots within the limits of those depart-
ents—excepting Alaska—and embracing one hundred and seventeen
ilitary posts, garrisoned by eighteen regiments of infantry, seventeen
mpanies of artillery, and eight regiments of cavalry. This laborious
rvice involved many thousands of miles of wagon-travel, for the most
rt over unsettled sections of country infested by hostile savages, and
cupied each officer from seven to nine months.

Besides this, other minor inspections and investigations have, from
ne to time, been made by these officers, thus occupying all their time,
d involving voluminous reports, which have been made without the
penditure of a dollar for clerical assistance.

Inspector-General Hardie, at the request of the general commanding
e Military Division of the Pacific, and by authority of the Secretary
War, previous to inspecting the Department of the Columbia, visited
e headquarters of the expedition against the Modoc Indians, and made
rtain inspections and reports for the division commander.

In a letter from General Schofield to Colonel Hardie, dated April 21,
73, is the following:

> In order that the public service may derive the fullest benefit from your tour
> spection in the Department of the Columbia, I request that your inspections m
> extended to all branches of the military service, so far as it can be done witho
> terfering with the plans or wishes of the department commander; and that all e
> faults, or defects you may discover be pointed out to the officers concerned, an
> rected at once as far as practicable.
>
> The instructions that may thus be given to young and inexperienced officers i
> of the greatest benefits expected from your visit to the frontier posts.

* * * * * * *

Substantially similar requests were made of the other inspec
general by the commanders of the departments of "Texas,"
South," "the Gulf," "Dakota," "Arizona," and "the Columbia,"
in accordance with their instructions from the War Department, pr
reports were made directly to those commanders, upon all matters w
were deemed of interest to them, or which required their action, a
is believed that those reports received immediate action at the han
the department commanders.

The inspectors-general report that the commanders of the de
ments above named rendered great assistance to them in the execu
of their duties, by directing that the most ample facilities shoul
afforded them to investigate every branch of the service at all the
and stations within their respective commands. The inspectors' re
also show that the officers generally gladly availed themselves o
opportunity afforded by their visits to ask instruction relative t
correct interpretation of doubtful points of law, regulations, and o
and upon other mooted questions regarding the proper performa
military duties; and it seems to me reasonable to presume that t
tended and diversified experience of these officers, both in the staf
line of the Army, eminently qualify them to give suitable answers to
tions of this character, as well as sound advice and instruction to y
and inexperienced officers.

This, besides promoting social harmony, will doubtless tend to
duce uniformity in the manner of performing military duty in diff
departments and localities, and will unquestionably fortify and en
age zealous and competent officers in their action, and thus greatly
duce to the discipline and efficiency of the Army.

Assistant Inspectors-General R. Jones, A. Baird, and E. H. Ludin
have during the year been attached to the head-quarters of the mil
divisions of "the Pacific," "the Missouri," and "the Atlantic," re
ively. Their reports show they have been actively and usefully eng
in the duties pertaining to their positions, and, it is believed, to th
tire satisfaction of their commanding officers.

Col. J. V. Bomford, Eighth Infantry; Lieut. Col. J. P. Hatch, F
Cavalry, and Capt. G. B. Russell, Ninth Infantry, for a portion o
year acted as assistant inspectors-general, but have been relieved.

Maj. W. H. Lewis, Seventh Infantry; Maj. A. W. Evans, Third
alry, and Capt. W. W. Sanders, Sixth Infantry, are respectively atta
to the head-quarters of the Departments of Dakota, Arizona, and
Gulf, as acting assistant inspectors-general.

In compliance with the requirements of the system instituted b
Secretary of War, in General Orders No. 87, series of 1872, scrutin
examinations have been made of the accounts of all officers who
made important disbursements of public money during the year.
funds received and expended by them, with the balances they rep
due the United States, have been carefully compared and verifie
official statements obtained from the Treasury Department and d
itories.

If this system continues to be strictly carried out in accordance with the order, it is believed that few losses will occur to the United States, as it seems hardly possible that a defalcation can be concealed or overlooked for any great length of time, and it is gratifying to state that no embezzlement and but three cases of misapplication of funds have been reported during the year, the latter being small sums which probably will not result in any loss to the Government.

The inspectors report that in some cases the monthly balances of public funds on deposit, with the numbers and amounts of checks drawn, are not regularly furnished disbursing officers by the depositories, which prevents verifying their check-book balances with those of the depositories.

The inspection reports show that the troops have been well supplied with clothing during the year, although the new-pattern uniform has not yet reached some of the more distant posts. Subsistence supplies have been abundant and of good quality, but at a great many posts complaints have been made that large excesses of officers' and canned stores have accumulated and become damaged by age to such an extent as to render it necessary to sell them at much less than cost. At some of the posts three and four years' supply of certain perishable articles are reported on hand. Whether this surplus resulted from over-estimates or from the stores being furnished in excess of requisitions, or from the changes of troops, I am unable to say, but this condition of things has resulted in losses to the United States, and may, it is believed, be to a large extent avoided in the future if the post commissaries and post commanders, with the officers who fill the requisitions, are held to a rigid accountability that they call for and supply no more than is necessary.

Complaints have been made to the inspectors by the officers at many posts that their predecessors, on being relieved, have carried away files of orders, books, and other records which properly pertain to the posts; which practice should be promptly corrected by orders.

Inspector-General Davis states, in his annual report, that post quartermasters do not generally keep a proper morning report, accounting for their employés, public animals, and forage and fuel received, issued, and remaining on hand; this he regards as an important report, which, if properly kept, would avoid some discrepancies which might otherwise occur.

The inspections during the year have also disclosed the fact that at several posts large deficiencies of forage have existed, which the officers responsible have in some instances claimed resulted from great shrinkage in the dry atmosphere of the plains. There are good reasons for believing, however, that in some cases these deficiencies have arisen from want of proper care on the part of quartermasters in weighing and receiving the forage from contractors or predecessors.

Public animals picked up astray or coming into possession of quartermasters otherwise than by regular transfer, as well as forage rentered surplus by short issues, have not in all cases been taken up and accounted for until the attention of the authorities was called to the facts by the inspectors.

These irregularities are, however, exceptional, the inspection reports indicating that the officers performing the duties of quartermasters are generally improving in zeal and efficiency; that better care is taken of public property, and more regard manifested for economy and other interests of the service than heretofore.

All the facts above stated have been reported by the inspectors to department commanders, who have, it is believed, taken prompt me ures to investigate and correct the irregularities.

To prevent soldiers under charges from being confined for long peri previous to trial, it is suggested that post commanders be inves with authority to present for trial, before general courts-martial, ca not of an unusual character, that have arisen subsequent to the order of the court, without the charges being first referred to departm commanders, which, at some remote posts, consume six weeks' time, frequently involve the necessity and expense of convening anot court-martial.

Notwithstanding the fact that the condition of the soldier in our Ar has been greatly ameliorated, and his pay and allowances increased, recent regulations and legislation, and although the aggregate num of desertions in the past fiscal year has been about five hundred l than during the previous year, yet the desertions have continued such an extent as to still constitute an evil to the service of the gre est magnitude. Many remedies have been suggested as preventive this, one of the most heinous of military crimes, which involves not o an entire disregard of soldierly honor, but a deliberate act of perju yet nothing seems to have had the desired effect. But few desert have been apprehended on the frontier, for the reason that in ma localities they have been protected by the citizens, who do not genera appreciate the turpitude of the crime.

One of the inspectors-general has suggested a remedy which appe to me worthy of consideration. It is, that desertion be constituted legislative enactment as a felony cognizable by the civil courts of cr inal jurisdiction, the offenders to be arrested by marshals and deputi like other criminals, but this jurisdiction to be concurrent with milita courts.

This, it is believed, would have the effect of educating and impre ing the public mind with a proper sense of the criminality of the offen and prevent evil-disposed persons from harboring deserters.

It would, in my judgment, greatly augment the efficiency of the Ar were more instruction given to recruits previous to sending them organizations from the recruiting depots.

Since the reduction of the Army to the existing standard, urgent ca for recruits to fill vacancies in the different regiments upon the front have generally prevented them being kept at the depots more than week or two, and they frequently join their companies knowing nothi of the use of arms, or even the position of a soldier. Whereas if th were properly instructed for three months at the recruiting depots th would be proficient in the company exercises.

The majority of the troops are now doing duty in the Indian count where they are not only required to perform service as arduous a hazardous as in time of war, but they are often compelled to procu material for and build their own quarters, which, with their other ind pensable fatigue duties, consumes so much of their time that it is f quently impossible to give them much systematic military instructi at the military posts on the frontier.

Besides, the exigencies of the service very often leave but one co missioned officer with a company, and his time is so much taken up wi scouting, escorting, and his other multifarious duties, that he can gi but little attention to drills or other military teaching.

I deem it proper to remark here that the adoption of the new code Army Regulations, recently submitted to Congress for approval, will p

de remedies for most of the irregularities and evils that have been
entioned.

The old Army Regulations of 1863, which, under the act of July 28,
366, are to continue in force until the adoption of a new code, do not
eet the existing exigencies of the service. Indeed, they have been so
tered and amended by laws and orders, that it often requires consider-
ble study and research to determine their actual signification. Besides,
is edition is now exhausted, with but few tattered copies extant, so
at, unless something is done soon, it may be truly said that our Army
ave no regulations.

The officers, for the most part, are exceedingly desirous that a new
de which they can comprehend should be speedily promulgated. In
ew of this, and the additional fact that the regulations now before
ongress will settle many mooted military questions that have never
een touched upon in former editions, and this in accordance with
inions of the best military minds we have ever had in service, and as
my judgment they are in other respects eminently adapted to the
isting necessities of the service, I beg leave again most respectfully
recommend the early action of Congress upon them.

Respectfully submitted.

R. B. MARCY,
Inspector-General.

The ADJUTANT-GENERAL OF THE ARMY.

REPORT OF THE JUDGE-ADVOCATE-GENERAL.

REPORT OF THE JUDGE-ADVOCATE-GENERAL.

REPORT

OF

THE JUDGE-ADVOCATE-GENERAL.

WAR DEPARTMENT, BUREAU OF MILITARY JUSTICE,
Washington, D. C., October 1, 1873.

SIR: In compliance with instructions of circular of the 13th ultimo, I have the honor to submit for your consideration the following statement of the business of this Bureau since the date of my last annual report, of October 1, 1872:

1. Number of records of military courts received, reviewed, and registered, 16,088.
2. Number of special reports made upon court-martial proceedings, and applications for remission of sentences, and upon the miscellaneous questions of law, &c., referred for the opinion of the Bureau, 823.
3. Abstracts of proceedings of trials furnished to the proper officials of the War and Treasury Departments, 1,737.
4. The copies of records furnished under the ninetieth article of war to parties tried by military courts have amounted to 7,723 pages.

The amount of business thus performed during the past year varies little from that reported for the year preceding.

The work of systematically arranging, indexing, &c., the voluminous official papers of the late Provost-Marshal Baker, heretofore reported as in progress, has been completed during the current year.

Respectfully submitted.

J. HOLT,
Judge-Advocate-General.

Hon. W. W. BELKNAP,
Secretary of War.

REPORT OF THE QUARTERMASTER-GENERAL.

WAR DEPARTMENT,
QUARTERMASTER GENERAL'S OFFICE,
Washington, D. C., October 10, 1873.

GENERAL: I have the honor to forward herewith, for the information f the honorable Secretary of War, a report of the operations of the uartermaster's Department during the fiscal year ending on the 30th ay of June, 1873, in duplicate.

Very respectfully, your obedient servant,

M. C. MEIGS,
Quartermaster General, Bvt. Maj. Gen., U. S. A.

he ADJUTANT-GENERAL OF THE ARMY.

REPORT

OF

THE QUARTERMASTER-GENERAL.

QUARTERMASTER GENERAL'S OFFICE,
Washington, D. C., October 10, 1873.

SIR: I have the honor to submit the annual report of operations of e Quartermaster's Department during the fiscal year ending 30th June, 73.

the 1st July, 1872, the balance on account of appropriation for years rior to 1st July, 1870, remaining to credit of the Quartermaster's De-artment in the Treasury undrawn, was by report of last year	$2,290,164 71
nount placed to the credit of appropriations during the year by deposts of funds for redistribution, and of amounts received from sales to fficers of public property purchased prior to July 1, 1870	373,035 81
nount expended for other Departments prior to July 1, 1870, and refunded by them during the last fiscal year	424,428 85
	3,087,629 37
quisitions on settlements made at the Treasury of claims and accounts	1,449,743 37
lance to the credit of appropriations for periods prior to July 1, 1870, emaining in the Treasury June 30, 1873	1,637,886 00

Appropriations for the fiscal year ending June 30, 1871.

lance in the Treasury July 1, 1872		$272,862 25
nount placed to the credit of appropriations during the year by deposits of funds for redistribution, and of amounts derived from sales to officers of public property purchased during the year ending June 30, 1871		8,374 55
nount expended for other Departments during the fiscal year ending une 30, 1871, and refunded by them during the last fiscal year		33,838 70
Total		315,075 50
mitted to disbursing officers during the year, on requests of he Quartermaster General	$550 65	
quisitions on settlements made at the Treasury of claims and ccounts	55,019 45	
		55,570 10
lance in the Treasury June 30, 1873		259,505 40

Appropriations for the fiscal year ending June 30, 1872.

lance in the Treasury, July 1, 1872, of amounts appropriated by acts of Congress approved March 3, 1871, and May 18, 1872	$99,863 39
ppropriation for deficiencies, act of Congress approved March 3, 1873.	1,110,000 00
ansportation of insane volunteers, act of Congress approved May 18, 1872	1,000 00
nount placed to the credit of appropriations during the year by deposts of funds for redistribution, and of amounts derived principally from ales to officers of public property purchased during the year ending June 30, 1872	331,024 32
nount expended for other Departments during the fiscal year ending June 30, 1872, and refunded during the last fiscal year	21,199 92
Total	1,563,087 63

Remitted to disbursing officers during the year on requests of the Quartermaste rGeneral	$148,296 84	
Requisitions on settlements, made at the Treasury, of claims and accounts	384,078 67	
		$532,
Balance in the Treasury July 1, 1873		1,030,

Appropriations for the fiscal year ending June 30, 1873.

Appropriations for fiscal year		$12,114,
Appropriations for deficiencies, act of March 3, 1873		1,570,
So much of the $200,000 appropriated by the act of March 3, 1873, for preservation of clothing and equipage from moth and mildew, during the year ending June 30, 1874, as was used during the year ending June 30, 1873, the appropriating act rendering it available in that year		150,
Amount placed to the credit of appropriations during the year by deposits of funds for distribution, and of amounts derived principally from sales to officers of public property purchased during the year ending June 30, 1873		16,
Amount expended for other Departments, and refunded by them during the fiscal year		
Total		13,850,
Remitted to officers for disbursement on requests of the Quartermaster General	$13,365,188 96	
Requisitions on settlements made at the Treasury of claims and accounts	22,032 52	
Transferred to the Ordnance Department for the manufacture of knapsacks, canteens, and great-coat straps	41,953 33	
		13,429,
Balance in Treasury June 30, 1873		421,

The accounts and vouchers which have been examined in this since the last annual report show disbursements as follows:

On account of appropriations for years prior to the fiscal year ending June 30, 1872	$1,843,
For the fiscal year ending June 30, 1872	8,041,
For the fiscal year ending June 30, 1873	5,638,
Total	15,524,

Appropriations are charged with these disbursements as follows

Appropriations for the Quartermaster's Department.

	Prior to July 1, 1871.	Fiscal year 1871–1872.	Fiscal year 1872–1873.	To
Regular supplies	$376,804 66	$2,940,066 23	$2,182,432 29	$5,499
Incidental expenses	165,975 38	903,317 10	705,951 31	1,775
Purchase of cavalry and artillery horses	375 00	181,829 23	47,391 00	229
Barracks and quarters	295,676 75	1,081,257 06	793,619 19	2,170
Army transportation	959,684 96	2,213,396 60	1,347,823 06	4,520
Mileage, transportation of officers' baggage	486 39	....	....	
Purchase, manufacture, and preservation of clothing, camp and garrison equipage	10,499 36	491,445 92	413,158 29	915
Purchase of stoves	18,145 31	16,593 65	10,527 55	45
National cemeteries	8,900 32	156,456 29	62,921 62	228
Hospitals	....	....	8,224 93	8
Headstones	....	....	1,814 00	1
Total	1,836,548 13	7,984,362 08	5,573,863 24	15,394

Special appropriations and expenditures for other Departments.

	Prior to July 1, 1871.	Fiscal year 1871-1872.	Fiscal year 1872-1873.	Total.
re-proof buildings at Jeffersonville Depot, nd	....	$51,584 12	$64,269 70	$115,853 82
my contingencies	$142 50	719 82	500 00	1,362 32
v Department	1,555 26	978 07	....	2,533 33
bsistence Department	2 25	2 25	....	4 50
dical Department	782 43	1,900 72	....	2,683 15
dnance Department	....	56 00	....	56 00
lian Department	4,574 56	2,112 65	....	6,687 21
diers' Home	....	84 32	....	84 32
Total	7,057 00	57,437 95	64,769 70	129,264 65

At the close of the fiscal year the balances remaining in the hands of ficers and not needed to discharge liabilities incurred during the fiscal ear, and payable out of these balances, were called in and transferred officers who found themselves deficient in funds to pay for supplies d services purchased or rendered under orders of their commanders.

This money, scattered all over the United States and Territories among me three hundred disbursing officers, has not yet been all brought into e Treasury, and the process of settlement of outstanding accounts is ill going on. It appears that these balances thus collected will not be fficient to pay for all the supplies purchased and services rendered, d a deficiency estimate has accordingly been submitted. It amounts :

gular supplies	$206,000
cidental expenses	241,000
my transportation	592,000
rracks and quarters	127,000
Total	1,166,000

The principal deficiency is in the appropriation for transportation; t there are also deficiencies in regular supplies, incidental expenses, d barracks and quarters.

It is impossible for any human intelligence to predict the exact nature d cost of the military operations of a nation during a period of twelve onths, which begins nearly twelve months after the estimate is made.

The average ordinary general expenses of the Army do not differ eatly from year to year, but the separate items differ greatly, as anges are more or less frequent in the stations of the troops, and as w posts are established and new districts occupied.

The estimates of this office are based upon experience, and when luced it is not always possible for the War Department to so regulate e military movements and to control the cost of articles given by law d regulations to the troops in certain definite quantities as to keep thin the appropriation.

The law gives to officers and men certain fixed supplies of clothing, quarters, of transportation, and when the appropriations are deficient, e officers find themselves in the dilemma of failing to provide what the v requires them to supply, or of incurring liabilities beyond the amount the appropriations. Whichever course is taken violates law.

The forms and methods of keeping and making accounts and returns the Quartermaster's Department have been improved and simplified the issue of General Orders No. 64, October 25, 1871; No. 68, No mber 4, 1871; No. 7, February 21, 1872, and No. 98, November 14,

1872. These four orders publish in compact form the existing reg
tions for making returns of money and of property, and those wh
govern the system of transportation of military material and of tro

They have now been in operation, the two former for nearly two ye
and the latter for one year, and the annual reports of officers doing d
in the Quartermaster's Department are bearing almost unanimous te
mony to the advantages in simplicity and intelligibility of the forms
system now in use and established by these general orders.

I regret to see in the system of regulations recommended to the
Department by a board of officers, and, under the law of July 15, 18
communicated to Congress, a proposition to transfer from the Quar
master's Department to the Commissary Department a large portio
the duties of this Department.

The Quartermaster's Department has always had as one of its spe
duties the transportation of all military stores. It is organized
trained especially to this duty, and there can be no doubt that
plicity, and economy, and efficiency in military operations are
secured by committing such an important branch of the service
some one military department. Hence, I consider as likely to be v
injurious, should it be adopted, the proposition to transfer to the S
sistence Department the transportation and storage of subsistence
plies.

The proposition is that the Subsistence Department shall be respo
ble for and have control over the transportation of its supplies;
commissaries, in addition to purchasing and issuing as heretofore, s
contract for all transportation of their supplies, wherever rail or wa
transportation can be contracted for or hired; that, when supplies
to be transported to posts away from rail or water, the commissary s
make requisition on the quartermaster, at the point where such supp
leave rail or water, for Government wagons and teams for their trans
tation. If the quartermaster cannot furnish these, the commissar
hire wagons or contract for the delivery of the supplies at the plac
destination; and at points of transshipment, if there are no suita
store-houses, the commissary to hire or build such as are needed. T
if adopted, will transfer to the commissary a large part of the dutie
the quartermaster. It will establish two great parties competing aga
each other at all important strategic points for transportation. The
cer of each department will have as a first duty the success of his
department of the service, the fulfillment of the orders he receives.
there is but one steamboat, the quartermaster and the commissary
compete for its control, and the prices of freight will advance.

If there is a scant supply of wagons, of mules, or of oxen, the s
competition will spring up. Instead of one department dealing with
owners of the steamboat, the railroad, the wagon, the inland mule or
train, there will be two, each acting in the interest of the same pa
the United States, but competing and bidding against each other.
too, instead of one department and one set of officers, as heretofore,
structing or renting the requisite store-houses, there will be two com
ing for the lease, and as the quartermaster will have no footing in
commissary store-houses there will be two store-houses erected or h
at the expense of the Treasury instead of one. Responsibility, too,
be divided and weakened. The commissary is to do these things a
his goods leave the railroad or steamer in case the quartermaster is
able to furnish the wagons and has no spare store houses.

There are other provisions in the draft of these regulations, as pri y Congress, H. R. Report 85, which make radical changes in the posiions of large numbers of officers.

The Quartermaster's Department has been recognized by law, and by egulations and orders, as a part of the general staff of the Army. In it romotion and rank are regulated as a part of the staff. These proposed egulations propose to change all this, and to remand certain most imortant departments of the staff to a separate and anomalous condition s parts of a special staff or administrative service or supply-branches f the service.

The experience of many years in this country, and observation of the ourse of military events here and elsewhere, which in the life-time of his generation have been on a very great scale, both at home and broad, have conclusively vindicated the system of this country which ives to all officers of the staff of the Army on whose intelligence, skill, nd zeal the application and support of the physical and moral power of he soldier depend, military rank and military responsibility. This priniple has been lately introduced even into the Navy. It secures a higher rder of service, greater zeal, intelligence, ardor, and integrity, and ow the draft of new regulations proposes to cripple and weaken this ystem by driving these several corps of intelligent officers out of the osition and standing in which they have won honor to themselves, one credit to the Army, and good service to their country in time of its reatest need.

While the system of reports and accounts has been simplified by the ction of the War Department in the publication of these general orders, egislation has introduced into all the accounts of this office, and of undreds of disbursing officers, a serious difficulty and complication. Each officer of the Quartermaster's Department who disburses money as occasion to expend it under several of the different heads of approriation. Though he may have a large sum of money to his credit and ubject to his check, he may be unable to pay a just bill for forage or or services because he has none of that particular appropriation on hand. his increases nearly nine-fold the entries in his accounts. It often occaions delay in payment of the public creditor, and by complicating the ccounts increases the liability to errors and disallowances. Both the fficer and the public creditor suffer, and the Treasury suffers in many ays, as each disbursing officer must have a working balance under ach head of appropriation; the total amount lying to his credit, unsed, in the public depository must be much greater than if, out of any um to his credit, he was allowed to pay any just account. The remedy or this evil—and it is a great one—would be the making of the approriations for the Quartermaster's Department under a single title.

While the total gross sum needed for the service of this Department an be estimated for any ordinary year with considerable accuracy, it s not possible to secure absolute accuracy in each of the million items hich go to make up the sum total, or in the several divisions under hich it has been customary to present these estimates to Congress. t would be much better to appropriate for the Quartermaster's Departent in one gross sum equal to the aggregate of the estimate, and thus implify accounts and secure the prompt and certain payment of the ublic creditor. All dealers now charge something for the risk of delay hich experience shows them that the present system too often causes.

The report of the officer in charge of the branch of this office which xamines the accounts of disbursing officers sets forth in detail the nconvenience and injury to the service arising from this system, and he report (H. R. No. 87, Forty-second Congress, third session) by

the Committee on Expenditures in the War Department, printed
the House of Representatives, also very forcibly presents the case.

The following table, which gives the balances remaining in Treasu
on account of the Quartermaster's Department on the 30th Jun
1873, will show the complication of accounts caused by the requireme
of the law to treat each head of appropriation under each year a
separate and distinct appropriation, to be drawn upon and account
for separately. There are forty-three separate appropriations.

Balances of appropriations undrawn by the Quartermaster's Department, July 1, 1873.

	Prior to July 1, 1870.	1870–1871.	1871–1872.	1872–1873.	1873–187
Regular supplies	$363, 400 86	$82, 068 05	$89, 263 98	$1, 688 55	$4, 500, 00
Incidental expenses	154, 582 71	63, 330 62	128, 223 05	3, 813 40	1, 300, 00
Purchase of horses	51, 773 50	12, 231 29	22, 109 73	7, 692 96	350, 00
Barracks and quarters	125, 124 02	45. 075 91	79, 902 32	32, 952 33	1, 700, 00
Transportation of the Army	801, 844 32	8, 597 38	684, 684 14	156, 541 92	4, 492, 09
Transportation of officers' baggage	29, 882 66				
Clothing of the Army	76, 312 66	47, 180 55	26, 488 90	4 53	1, 045, 03
Stoves	34, 493 27	21 60	40 00		
National cemeteries					275, 00
Clocks for permanent posts	522 00				
Hospitals				15, 473 49	100, 00
Expenses of sales				9, 157 57	
Head-stones				183, 866 25	1, 000, 00
Monument at Salisbury, N. C.				10, 000 00	
Preservation of clothing					50, 00
Total	1, 637, 936 00	259, 505 40	1, 030, 712 12	421, 191 00	14, 812, 13

The number of money-accounts and of property-returns examin
during the past year is not so great as in previous years. This is d
in great measure to the increased difficulty of the settlement und
the act of 3d June, 1870. But at this time all accounts and returns f
years prior to 1873 have been examined, and nearly all those for first qua
ter of 1873 have been examined. Those for the second quarter of 18
are now in course of examination, and the examination of those for t
third quarter, which has just closed, will be commenced before all a
received from officers. The work of examination may therefore be sa
to be up to date.

The Quartermaster's Department is charged with the duty of provi
ing the means of transportation, by land and water, for all troops a
all material of war. It furnishes the horses of the artillery and caval
and horses and mules for the trains. It provides and distributes clot
ing, tents, camp and garrison equipage, forage, lumber, and all ma
rial for camps and for shelter of troops and of stores. It builds b
racks, hospitals, store-houses; provides wagons and ambulances a
harness, except for cavalry and artillery horses; builds or charte
ships, steamers and boats, docks and wharves; constructs and repai
roads, railways, and bridges; clears out obstructions in rivers and h
bors when necessary for military purposes; provides, by hire or pu
chase, grounds for military encampments and buildings; pays, general
all expenses of military operations not by law expressly assigned to so
other department; and, finally, it provides and maintains military ce
eteries, in which the dead of the Army are buried.

Food, arms, ammunition, medical and hospital stores are purchas
and issued by other departments, but the Quartermaster's Departme
transports them to the place of issue, and provides store-houses for th
preservation until consumed. The corps of officers upon whom all the

nties fall has been reduced by time until it is not able to fill well every ost at which an officer of activity and ability is needed. Its ranks hould be now opened to promotion and appointment.

Many officers of the line, finding themselves charged with heavy reonsibility as acting assistant quartermasters, and having insufficient ssistance, at frontier posts, ask that the enlistment of post quarteraster-sergeants may be allowed by law. Such non-commissioned fficers, selected for experience and fidelity shown in actual service, ould be very useful. They would remain at posts in charge of the roperty when the garrison changed, and thus would preserve knowldge and responsibility now often lost through the frequent change of fficers. Such officers also ask that some compensation may be granted hem for the risk which they incur in the disbursement of public money, nd for the responsibility involved in the care of large amounts of pubc property.

I have the honor to renew the recommendation heretofore made, that n allowance of $10 per month be made in addition to the pay of every ne-officer who is detailed by proper authority as acting assistant quarermaster of a military post, when such detail is properly reported to nd approved by the War Department. Such an allowance is only just, nd it would relieve the service from the feeling that heavy duties are nposed by such detail without any recognition or compensation. Such uties are important, and they should be sought by good officers, not nposed upon the slothful or unwilling.

About three hundred and eighty officers of the line act every year for ome portion of the time as acting assistant quartermasters.

The officers of the regular establishment of the Quartermaster's Deartment, all of whom have served through the late war and have had nuch experience, are stationed at the more important depots and posts. et many posts, involving heavy responsibility in money and property, nd calling for good judgment, integrity, and zeal, are occupied by sublterns of the line, on duty as acting assistant quartermasters.

The expenditures of the Quartermaster's Department have been disributed throughout the country among the several military departments nd divisions, and the principal purchasing and supply depots, as folows:

emittances to disbursing officers in the Military Division of the Atlantic		$448,872 59
Of which there was sent to—		
epartment of the East	$335,267 20	
epartment of the Lakes	113,605 39	
o the Military Division of the Missouri		6,230,133 79
Of which there was sent to—		
epartment of the Missouri	1,024,892 80	
epartment of the Platte	1,135,670 93	
epartment of Dakota	854,154 35	
epartment of Texas	1,748,234 29	
istrict of New Mexico	451,308 25	
epot at Chicago	499,756 46	
epot at Saint Louis	516,116 71	
o the Military Division of the Pacific		3,066,342 37
o the Military Division of the South		1,020,054 64
Of which there was sent to—		
epartment of the South	695,792 61	
epartment of the Gulf	324,262 03	
o the principal depots		2,364,295 84
Of which there was sent to—		
ew York	349,760 33	
ashington	726,071 52	
hiladelphia	1,108,110 20	
effersonville	180,353 79	

To officers in immediate charge of national cemeteries		$137,104
To independent posts		98,484
Of which there was sent to—		
West Point, N. Y	$44,905 74	
Springfield armory, Mass	2,431 68	
Fort Columbus, New York Harbor	826 50	
Cavalry depot, Saint Louis	3,800 93	
Newport Barracks, Ky	7,551 37	
Columbus arsenal, Ohio	1,223 50	
Indianapolis arsenal, Ind	789 10	
Watertown arsenal, Mass	11,838 60	
Allegheny arsenal, Pa	2,557 00	
Watervliet arsenal, N. Y	10,261 25	
Frankford arsenal, Pa	200 00	
Pikesville arsenal, Md	317 11	
Augusta arsenal, Ga	2,337 30	
Kennebec arsenal, Me	805 93	
Benicia arsenal, Cal	4,148 73	
Detroit arsenal, Mich,	892 46	
Rock Island arsenal, Ill	3,597 68	
Total amount remitted		13,365,188

Remittances from the appropriation for the fiscal year ending Ju 30, 1873, have been made as follows:

Regular supplies:		
Fuel	$1,128,956 68	
Forage	3,197,430 06	
Straw	84,801 60	
Stationery	94,894 89	
Stoves	88,615 23	
Total regular supplies		$4,594,700
Incidental expenses		1,300,380
Horses, cavalry and artillery		292,714
Barracks and quarters:		
Rent of quarters for officers	$323,092 00	
Rent of store-houses, offices, commutation of quarters for enlisted men, &c	312,318 03	
Building-material for repairs	550,161 64	
New buildings authorized	281,356 26	
Total barracks and quarters		1,466,928
Army transportation		4,325,601
Clothing and equipage		858,412
National cemeteries		250,729
Hospitals		84,526
Stoves		10,000
Preservation of clothing and equipage from moth and mildew		150,000
Mojave claims, (special appropriation)		14,219
Head-stones		16,133
Expenses of sales		842
Total amount remitted		13,365,188

INSPECTION BRANCH.

To this branch of this office are committed the keeping of records stations and duties of officers, of correspondence, the examination reports of inspection, of reports of boards of survey, the filing and pr servation and distribution of orders and circulars. Through this branc of the office about 180,000 papers pass and are recorded yearly. Lis of the officers of the Quartermaster's Department, and of officers of t line who have served in the Quartermaster's Department during t year, with their stations and duties, will be found attached to t report.

INDEBTED RAILROAD COMPANIES.

At the close of the war, under executive orders of 8th August and 14th October, 1865, there were sold on credit to various railroad companies, principally in the South, railroad material to the appraised value of..	$7,556,033 95
There remained due and unpaid from certain of these railroads on 30th of June, 1872	4,734,442 43
During the past fiscal year, interest and expenses accrued upon this debt to the amount of	101,573 95
Payments during the year, on account, have amounted to	151,303 44
On the 30th June, 1873, the debt uncollected amounted to	4,658,924 07
exclusive of the sum of $25,788.87 due from the New Orleans and Ohio Railroad, which debt is lost by the bankruptcy of the company. The total collections on account of this debt, to 30th June, 1873, amount to	5,116,605 53

The earlier collections, being reimbursements of the Quartermaster's Department for property originally purchased with its appropriations, were applied to its service, reducing the amounts of the annual estimates for appropriations; but since the passage of the law of May 8, 1872, requiring all proceeds of sales of public property to be deposited in the Treasury, to credit of miscellaneous receipts, these collections have taken that course. Fifty railroads originally availed themselves of the privileges of the executive orders. Thirty of them have paid their debts in full with interest. Twenty now remain in debt to the United States on this account.

A full statement of these accounts accompanies this report; to it reference is made for detailed information.

Against some of the roads greatly in default suits have been commenced in the United States courts.

Since my last report the suit against the Nashville and Decatur Railroad has been compromised and settled by the Secretary of War, under authority of the act of 3d March, 1871, (16 Stat., chap. 119) for the sum of $70,000, of which $6,000 was paid in cash, the balance to be paid in ten years from 1st July, 1872, with interest, semi-annually, at the rate of 5 per cent. per annum, secured by bond and lien upon the property of the company, guaranteed by the Louisville and Nashville Railroad, and by decree of the United States circuit court affirming the liability, and to be enforced by execution in case of default.

Other suits are yet unsettled, for details in reference to which I refer to the report of Major Ludington, the officer in charge of the transportation branch of this office, which accompanies this report.

Some of the roads largely indebted to the Government, and which have given bond for the application of their postal earnings to the payment of their debt, refuse or persistently neglect to give the order for the payment of their earnings, which, in the judgment of the Post-Office Department, is necessary, before the money can be thus applied. Some of these earnings have thus, under the law, lapsed into the Treasury; other considerable amounts are locked up. They are not turned over to the roads, but not being turned over to this Department it cannot credit the debt account of the railroads with them.

Some provision of law for the collection of this money and settlement of the debt, so far as it will go, is desirable.

TRANSPORTATION.

The General Order No. 98, of 1872, establishing the improved system of transportation, has been distributed to officers of the Army and to all railroads and transportation companies having dealings with this office. It is found to be satisfactory to the officers and to the pub with whom they deal.

The total movement of transportation during the year, thus far r ported, amounts to 72,860 persons, 8,148 beasts, and 164,125,223 poun of material.

The cost of railroad transportation during the year amounts $1,235,579.43, of which accounts for $921,514.87 have been settled transmitted by this office to the Treasury for settlement.

The movement over the Pacific Railroad has been:

Name of railroad.	No. of persons moved.	No. of beasts moved.	Freight pounds.
Union Pacific	6, 166	1, 763	21, 697,
Central Pacific of California	3, 034	63	2, 444,
Kansas Pacific	1, 951	390	5, 711,
Sioux City and Pacific	223	36	3, 544,
Total	11, 374	2, 252	33, 397,

The cost of this service is estimated at:

For the Union Pacific Railroad	$445, 501
For the Central Pacific Railroad	136, 598
For the Kansas Pacific Railroad	149. 797
For the Sioux City and Pacific Railroad	2, 402
Total value of service of the Pacific railroads during the year	734, 298

Until the passage of the act of 3d March, 1873, one-half the earnin of these roads for military transportation was paid in cash, on proof service, and the other half was retained by the Treasury to be used payment of the interest on the United States bonds issued to the Since the passage of that law the whole of these earnings have bee withheld by the Secretary of the Treasury, but it is charged against t appropriations for transportation of the Army.

The earnings of the Pacific railroads in the previous fiscal yea ending June 30, 1872, were $800,857; in the year ending June 30, 187 $767,047.99.

WAGON AND STAGE TRANSPORTATION.

By wagon we moved during the year 756 passengers, 32,004,635 poun of material; by stage, 1,380 passengers, 3,648 pounds of material. T cost of wagon transportation was $997,943.44; of stage transportatio $59,319.29.

Thirty-two contracts for wagon transportation are reported duri the year.

The existing contract for wagon transportation from the line of t new Atchison, Topeka and Santa Fé Railroad, and from the Kansa Pacific and Denver and Rio Grande Railroads, to posts in the Depa ment of Missouri, and in Texas and New Mexico, and to Camp Apach Arizona, is at the rate of 90¾ cents per 100 pounds per one hundred mile This is a considerable reduction from the previous contracts, whic averaged $1.17½.

The existing wagon contract rates in Texas generally show a materi reduction in price, attributable to the extension of railroads into t interior, the shortening of the wagon routes, and the avoidance of t routes through the heavy soils and wet climate of the coast.

On the Pacific coast the rates have slightly increased. The demand for transportation due to the Modoc war, carried on during the rainy season, will account for this increase. That campaign was very destructive to the means of transportation.

WATER TRANSPORTATION.

By water the movement has been of 37,789 persons and 2,026 beasts, and 55,467,201 pounds of stores. The cost of this, so far as the bills have been settled, was $760,973.58.

Three small steamers and two schooners owned by the United States have cost during the year $37,413.19. Twelve vessels have been hired or chartered during the year, at a cost of $43,056.76. Both these sums are included in the aggregate cost of transportation by water, reported above..

During the past fiscal year accounts and claims for transportation service rendered in previous years have been paid, or transmitted from this office to the Treasury for payment, amounting to $652,409.17.

CONTRACTS FOR REGULAR AND MISCELLANEOUS SUPPLIES.

During the year 614 contracts for supplies were reported to this office, as follows: For forage, 230 contracts for 20,318,814 pounds of oats or barley, 19,372,472 pounds of corn, 30,744 tons of hay, 439,000 pounds of bran; 11 for 2,508 tons of straw; 30 for 22,011 tons of coal; 144 for 84,022 cords of wood; 37 for 49,075 bushels of charcoal; 4 for construction of quarters; 47 for transportation; 7 for horses and mules; 12 for clothing, camp and garrison equipage; 16 for national cemeteries, and many for miscellaneous supplies and services.

FORAGE, STRAW, AND FUEL.

The issues of these supplies have been: Corn, 588,488 bushels; oats, 939,690 bushels; barley, 172,870 bushels; hay, 48,588 tons; fodder, 116 tons; straw, 3,292 tons; bran, 55,084 bushels. Of wood, the issue was 130,786 cords; of anthratic coal, 16,937 tons; of bituminous coal, 15,300 tons.

ANIMALS.

One thousand nine hundred and thirty-eight horses, costing $255,460.19, were bought during the year. The average cost in California was $110.11; in the Department of the Columbia, $115; Department of the Missouri, $126.36; in Texas, $132.46; Dakota, $139.

In addition to occasional purchases of horses to supply losses, 1,200 remounts were authorized this spring for the several cavalry regiments, as follows: For First Cavalry, none; Second Cavalry, 175; Third Cavalry, none; Fourth Cavalry, 175; Fifth Cavalry, 150; Sixth Cavalry, 100; and Seventh, Eighth, Ninth, and Tenth Cavalry, each 150. Those for the Second, Sixth, Seventh, and Tenth Regiments were purchased in Missouri, Iowa, and adjoining States; those for the Fifth, in California; those for the Fourth, in Texas; those for the Eighth, at Leavenworth and in Colorado, and those for the Ninth, at points designated by the general commanding Department of Texas. These purchases were made by boards of officers assembled by the department commanders, each board consisting of a quartermaster and one or two

officers of the regiment for which the horses were intended. The boa
moved through the districts assigned for their operations; publis
their wants by posters, and purchased from farmers and stock-rais
direct, without intervention of middlemen. The result has given sat
faction, and the system secured good horses at fair prices.

MULES.

Two thousand three hundred and ninety-seven mules were purcha
for the trains at a cost of $328,033.02. The greater number of th
were bought for the expedition to escort the Northern Pacific Railro
surveying party from Fort Abraham Lincoln, on the Missouri, to a
beyond the Yellowstone River. The average cost of mules was $1

One thousand and fifty-one horses were sold for $46,624.43; 2
mules, for $9,313.06. The proceeds, $55,937.49, have been deposited
the Treasury to the credit of miscellaneous receipts.

Four hundred and twenty-four horses and 489 mules are reported
have died, and 158 horses and 100 mules to have been lost or sto
during the year, and the number in service at the close of the year w
10,130 horses and 10,425 mules.

ARMY WAGONS AND HARNESS.

There are reported in service 3,107 wagons, 125 spring-wagons, 2
ambulances, 23,411 sets of wagon-harness, 2,148 sets of ambulance-h
ness, all serviceable.

The stock of wagons in the Army has suffered by use and age. Ev
those kept in store have deteriorated by dry-rot and by attacks of inse
to which hard timber is liable, so that many of those in use were un
liable and unfit to be used on a long march. The Yellowstone ex
dition, in Department of Dakota, was outfitted with a new train, a
many new wagons have been sent to other departments to replace th
which had failed or threatened to fail.

Five hundred and fifty new wagons were purchased during the ye
Two hundred and fifty, purchased in open market to meet the emerge
of the immediate outfit of the Yellowstone expedition, cost $175 ea
Contracts were made for the others, giving more time for the manuf
ture, at $149.50 each.

The train-wagon used for many years in the operations of the Unit
States Army before the war is of excellent design and constructi
In the very dry climate of the higher plains, and in the deserts of
Colorado and Gila, exposed to a scorching heat, and in an atmosph
without moisture, the timber shrinks and cracks. The wagon-build
of this country have for several years been experimenting with meta
hubs, many of which have been patented. Of some of the best
these, many thousands are now annually made and put into use. I
lieve that some of them will prove to be better fitted for use in the
tremely dry climates than wood, and samples of each of those wh
appeared to be best have been purchased and distributed to posts in
most trying climates for trial. The change is an important one, and
not be made, generally, unless the result of these trials is conclusive
favor of some one of the metallic hubs.

HORSE-SHOES AND SHOEING-MATERIAL, SMITHS' AND SADDLERS' TOO

Under the provisions of General Orders No. 2, War Department,
jutant-General's Office, January 2, 1873, the supply of tools and of sh

for shoeing cavalry and artillery horses was transferred from the Quartermaster's Department to the Ordnance Department, and large quantities of these materials and tools purchased by the Quartermaster's Department have, under that order, been transferred to the officers of the Ordnance Department.

The Quartermaster's Department must still keep smiths and tools for repair of its wagons, and for shoeing the draught animals, at every post, and when there are, as is frequently the case, no enlisted farriers with a body of cavalry, its officers are still called upon to provide for shoeing their horses. Thus two establishments are kept up throughout the military service to do the same thing, which appears not to be an efficient or economical arrangement.

EPIZOOTIC.

The epidemic catarrh which traversed the continent during the past year, visited, it is believed, every military post, and attacked a great majority of the horses and mules of the military establishment. It appeared early in New York and its vicinity, and a method of treatment adopted by Brevet Major-General Ingalls, assistant-quartermaster general, upon the advice of the veterinary surgeons of New York, was printed and distributed to military posts:

HEADQUARTERS DEPARTMENT OF THE EAST,
OFFICE CHIEF QUARTERMASTER,
New York City, October 28, 1872.

[Circular.]

The attention of officers and agents in charge of public animals belonging to the Quartermaster's Department in the Department of the East is called to the "epizootic catarrh" now prevalent among horses. They are directed to observe the following rules for the treatment of this disease, and to report results to this office at the end of the present month, and every ten days thereafter, until the disease disappears.

It is assumed that the stables are always kept clean, dry, and well ventilated, with plenty of fresh air and sunlight, when possible. It is also assumed that the horses are never overworked, but properly exercised at all times, whether sick or well, and that they are fed with wholesome forage, regularly groomed, and kept warm.

RUFUS INGALLS,
Col. and Asst. Q. Gen., Bvt. Maj. Gen., U. S. A., Chief Quartermaster.

Rules for the treatment of the disease.

On the first appearance of the disease give the horse a thorough steaming with hot-boiled oats, placed in a bag, and so fastened to the head that the steam from the oats will be inhaled. Repeat this until the discharge from the nostrils is free and of a natural color. Then take leather, or, what is better, carbolic disinfectant, in grains like large-sized cannon-powder, place it in a shallow pan, and burn it where the horse will be obliged to breathe it.

If the throat is sore, (which generally will be the case,) apply frequently hot vinegar, rubbing it well with the hand, and wrap the throat in flannel, dipped in vinegar. Sponge out the nostrils frequently with warm vinegar. Blanket well, night and day, but not enough to produce sweating, and give plenty of fresh, clean bedding.

Give several bran mashes, with from one-half to one ounce of powdered niter in each, and use linseed-meal or flax-seed in the oats. Use tepid water in the mash.

The hay and oats should be moistened with water—preferably tar-water.

Most cases if taken in time will yield to the above treatment; but should the attack be very severe, accompanied with considerable fever, and very sore throat, instead of the vinegar, an embrocation of equal parts of linseed-oil, turpentine, tincture of cantharides, and hartshorn should be rubbed in night and morning.

Powell's embrocation is very good.

Give as a drench, night and morning, the following:

Spirits of nitric ether	1 ounce.
Laudanum	4 drams.
Nitrate of potassa	3 drams.
Water	1 pint.

Mix.

Should the horse refuse his feed, offer him frequently thin gruel, with a handf
pulverized slippery-elm bark, and licorice-root stirred in it.

When convalescing, exercise gently daily, and stimulate the appetite with
following ball:

Extract of gentian	6 d
Powdered ginger	2 d

Mix.

A handful of wood-ashes mixed with a little salt, thrown into the feed-troug
the horse to lick up, will be relished by him and be beneficial.

At a later date the Secretary of War communicated to this o
the following simple prescription, with directions to communicate i
all officers of the Army in charge of public animals:

One teaspoonful of chlorate of potash twice a day to four horses, put in a pa
water, and let each horse drink his proportion.

These two prescriptions were thus made known. The losses by de
from the disease were very small, but the operations of supply v
everywhere delayed and deranged as long as the disease prevailed.
was very hurtful, during its prevalence, among the animals employe
hauling supplies to the troops operating against the Modocs, and f
time it dismounted the cavalry in that campaign, as also in Arizona

THE YELLOWSTONE EXPEDITIONS.

In the summer of 1872 an expedition left the Missouri River to es
a party of engineers to explore a line for the Northern Pacific Railr
to the valley of the Yellowstone. This march showed that the wag
trains, composed of wagons purchased during the war, had outli
their usefulness, and for the larger expedition organized in the mo
of June of the present year, it was necessary to procure a large n
ber of new wagons and many mules. One hundred and fifty
wagons were supplied, which, with about fifty reported to be good
available in Dakota, completed the train; 1,058 mules were purcha
and forwarded to Fort Abercrombie, where the mules were brok
organized into trains, fitted with harness, and supplied with teamst
under the direction of Captain Dandy, assistant quartermaster, du
the months of April and May. This train consisted of two hun
and two 6-mule teams and wagons, nine spring-wagons, with four m
each, two 6-mule artillery teams, and twelve riding mules for the wag
masters.

One 6-mule wagon and one 4-mule spring-wagon and their tea
and nine saddle-horses, were also supplied for the use of the scien
commission, which, under authority of the Secretary of War, acc
panied the expedition into this wild country.

The organization of this train was a laborious and difficult work,
its completion in so short a time is creditable to the officer in charg

The following is an extract from the annual report of Capt. G
Dandy, assistant quartermaster, Fort Abraham Lincoln, Dak., who
ganized the trains:

> On the 21st of April I received instructions from the chief quartermaster of
> department relative to organizing army-wagons for service with the proposed Yel
> stone surveying expedition. I was at that time in charge of the depot of trans
> tation at Fort Abercrombie, consisting of three hundred and sixty-five mules and sev
> wagons, which was further increased by the addition of ten hundred and seventy
> mules and one hundred and sixty wagons to be organized and added to the depot-t
>
> On the 27th April the mules and wagons, with the necessary harness for fitting
> one hundred and fifty 6-mule teams for service with the exploring and surveying p
> of the Northern Pacific Railroad west of the Missouri River, commenced arrivin

reckenridge, Minn., fifteen miles from Fort Abercrombie. The last shipment of ani- ials and material arrived on the 26th of May. The teamsters were hired in Saint aul, with the exception of fifty hired on my recommendation at Fort Leavenworth, ans. These latter were the only men sent me having any experience in the manage- ent of 6-mule teams, and many of the men employed at Saint Paul were vicious or orthless characters. About 25 per centum of the mules sent to me from Saint Louis ere very wild, and required throwing or placing in the stocks to shoe. Many had to e thrown in order to harness them; and there were many other difficulties in the ay of organizing this mass of raw men and material for efficient service in so short a me. The train, however, was completely shod and equipped and *en route* to the Yel- wstone on the 29th May. It consisted of two hundred and two 6-mule teams, nine -mule teams for spring-wagons, two 6-mule teams for artillery, and some 12 riding- ules for wagon-masters. In addition, there were one 6-mule team, one 4-mule spring- agon and team, and nine riding-horses provided for the use of the scientific party ccompanying the expedition. Special attention was paid to fitting the train amply ith spare parts, and blacksmiths', saddlers', and wheelwrights' supplies.

MODOC CAMPAIGN.

Summary of expenditures, indebtedness, &c.

isbursements as reported by Captain Hoyt	$120,881 20
scertained indebtedness, as reported by Captain Hoyt	70,990 03
ransportation of 754,257 pounds from San Francisco, at 15 cents	113,138 55
rain from Camp Halleck, consumed, cost at camp Halleck	5,000 00
ransportation of grain from Camp Halleck, consumed, rough estimate	25,000 00
	335,009 78

Items of expenditure not yet definitely reported to this office:

Cost of stores in San Francisco.

Cost of transportation of ordnance stores, &c., from Benicia arsenal; eight unknown.

Cost of transportation to Fort Klamath of over 200,000 pounds of rain and other supplies and stores remaining at the close of the cam- aign.

BARRACKS AND QUARTERS—MILITARY BUILDINGS.

During the year the construction of one hundred and twenty new uildings has been authorized, at an estimated cost of $245,544.87.

They are barracks for men, quarters for officers, stables, store-houses, uard-houses, bake-houses, &c. They are at military posts distributed rough the following States and Territories: California, Louisiana, Flor- la, Michigan, South Carolina, North Carolina, Tennessee, Texas, Kansas, ew York, Maryland, Oregon, Nevada, Kentucky, Georgia, Nebraska, ennsylvania, Minnesota, Maine, Iowa, Connecticut, Virginia, Dakota, ew Mexico, Montana, Washington, Arizona, Utah, Colorado, the In- ian Territory, and the District of Columbia.

WHARVES.

The expenditure of $18,111.32 in repair and construction of wharves various posts has been authorized.

REPAIRS.

Upon special estimates submitted to the Secretary of War, repair and terations of military buildings to the amount of $228,796.49 have been thorized. Many small repairs, making in the aggregate a large sum, ere also made under authority of local commanders, without special ference to the War Department for authority.

NEW POSTS ESTABLISHED.

The construction of two new posts in Arizona has been authorize one near Tucson and one near the mouth of the San Carlos Ri These posts are designed for garrisons of four companies each.

The orders of the Secretary required the labor of the troops to be ployed when possible, and limited the expenditure upon the two p to $35,000.

The post near Tucson is Camp Lowell; that on the San Carlos is Camp Grant, and they take the places of Tucson Depot and Old Ca Grant, which latter was in a very unhealthy, malarious location.

Erection of huts for one company of infantry at Otter Crossing, the line of the Northern Pacific Railroad, was authorized in Octo 1872.

A post known at first as Fort Cross, now named Fort Seward, been erected on the James River, Dak., on the line of the same railro

Fort Abraham Lincoln has also been built at the Missouri crossin the railrod.

New posts have been commenced at Tulerosa, N. Mex., and at Bea City, Utah.

New buildings, alterations, repairs, or additions have been authori at posts in—

The Department of California, to cost	$48,640
The Department of Texas, to cost	44,143
The Department of the East to cost	75,207
The Department of the South, to cost	15,810
The Department of the Platte, to cost	51,012
The Department of the Gulf, to cost	42,360
The Department of the Columbia, to cost	9,490
The Department of Arizona, to cost	62,707
The Department of the Missouri, to cost	151,795
The Department of Dakota, to cost	78,120
The Department of the Lakes, to cost	839
Total	580,127

Of this sum, however, construction, repairs, &c., to the amount $122,060, though authorized during the fiscal year, were ordered to deferred until, after the 1st July of the present year, the new app priation became available. The works, though needed, could not executed with the appropriation of the past year.

FIRE-PROOF BUILDING AT JEFFERSONVILLE.

This building has been occupied. The stores, heretofore in wood buildings scattered over a large space, in constant danger of fire a depredations, involving heavy expense for protection against both th dangers, have been all removed to the new building, properly clas and arranged for easy access, and safe against damp and fire.

An elevated reservoir, kept by a steam-pump constantly filled w water from a pool within the depot, affords the means, through pipes a hose, of instantly subduing any fire occasioned by incendiary attem or by spontaneous combustion.

A single watchman in the tower has constantly in view the doo every store-room. The cost of watching and guarding the propert thus greatly reduced.

The old buildings have been demolished and the materials sold.

NEW POSTS ESTAB

The construction of two new posts
near Tucson and one near
These posts are designed for
The orders of the Secre
employed when possible,
$35,000.
The post near Tu
Camp Grant, and
Grant, which la
Erection of
line of th
1872.
A post k
been erect
Fort A
railr
New
ty, I
Ne

	$350 00
	350 00
	500 00
	1,370 09
	146 00
	3,818 16
	1,793 50
	75 00
	1,200 00
	2,000 00
	77,754 70

TRANSFERRED FROM THE QUARTERMASTER'S DEPARTMENT.

Seven buildings at Clark's Point, Me., and thirteen at Fort Washington, Md., have been transferred to the Engineer Department, and the State arsenal at Savannah, Ga., held by the United States since the occupation of that city by the army of General Sherman, has been given up to the State.

GROUNDS SURRENDERED, SOLD, ETC.

Under the act of 25th February, 1873, the land at Wilmington, Cal., occupied by the United States, was ordered to be reconveyed to those who had originally conveyed it to the United States; the buildings thereon erected by the United States being first removed or sold. The buildings have been sold at public auction, and the land will be duly restored to its original owners.

Application has been made for the restoration to the donors of certain lands at Omaha, originally conveyed to the United States in consideration of the sum of $10, for the purpose of erection thereon of headquarters' offices and quarters for the department staff. The site is not a convenient one for the purpose, and the matter of reconveyance is before the Secretary of War.

The barracks at Houlton being no longer in use the buildings were sold at public auction, and Congress, by act of March 14, 1872, authorized the Secretary of War to sell the site, reserving to the county of Aroostook so much thereof as may be necessary to preserve the meridian monuments thereon erected by consent of the War Department: *Provided*, The land so granted to the county shall not exceed in value $500. The land not thus reserved, amounting to nearly 25 acres, was duly sold at auction, on 19th June, 1873, for the sum of $350. A deed to convey the portion reserved, whose value is much less than $500, is before the War Department for execution.

The act (17 Stat., p. 614) for procuring title to sites of military posts in Texas, approved 3d March, 1873, has not yet enabled the Department to perfect any title. A board of officers is now in session in Texas for the purpose of endeavoring to execute the law. This office has furnished the board with copies of all records bearing upon the subject which can be useful to them.

ARTESIAN WELLS.

An artesian well sunk at Madison Barracks, N. Y., under authority given in October, 1870, is a success. It affords an unfailing supply of good water. Its depth is 99 feet; the cost was $550. Two more are needed, and their construction has been authorized.

By the law of June 8, 1872, the Secretary of War was authorized to

Fort Shaw, Mont	$
Fort Sanders, Wyo	
Thomas Barracks, Ala	
Fort Union, N. Mex	1,
Fort Wadsworth, New York Harbor	
Fort Wingate, N. Mex	3,
Fort Wayne, Mich	1,
Fort Wood, New York Harbor	
Yerba Buena Island, Cal	1,
Fort Yuma, Cal	2,
Total	77,

BUILDINGS TRANSFERRED FROM THE QUARTERMASTER'S DEPARTM

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xpend $10,000, or so much thereof as might be necessary, in boring for
ater at Fort D. A. Russell, near Cheyenne Depot, Wyoming. The
te of this post is on the dry plains, at the base of the Rocky Moun-
ains, 6,000 feet above the sea-level.

As no one could be found willing to contract to sink a well to water
this unexplored soil, the tools were purchased by the United States,
nd a skillful and experienced person was employed to direct the oper-
tion. After boring to a depth of 410 feet through drift, the first well
as abandoned, having caved in and injured its tubing to such a degree
at it was considered cheaper to begin a new well than to attempt to
nk the first deeper. The expenditure to the time this first well was
bandoned was $8,195.38.

The new well has been sunk through the same strata to a depth of
17 feet, and the expense has amounted to $6,164.62. The last 152 feet
this well are in impervious strata of clay, and as there is a large ex-
nt of country within forty miles rising to a height of 2,000 feet above
e site of the well, there is good ground for the hope that beneath
ese strata, impervious to water, a gravel or fissured rock, saturated
ith water, may be found.

The exploration will be of value, if successful, by showing that water
n be obtained; and if unsuccessful, by preventing others from throw-
g away money in future. I have, therefore, advised that it be con-
nued until the stratum is pierced, or until the difficulties of penetrat-
g deeper become insuperable.

The expenditure thus far has been $14,360; but the cost per foot of
e second well has been much less than that of the first. This is due
the knowledge gained in the first boring. Boring began on the 27th
November, 1872. On the 16th of May, 1873, at a depth of 410 feet,
is well was abandoned. Expenditure to this date, $8,195.38. Second
ell begun on the 22d of March, 1873, and the following are the results:

Strata.	Depth of each stratum.	Total depth.	Date.
	Feet.	*Feet.*	
avel, clay, and sand	75	75	Mar. 31, 1873
apstone	20	95	April 1, 1873
apstone and mixture of fine gravel	65	160	April 4, 1873
avel and mixture of clay	50	210	April 5, 1873
d shale	190	400	April 8, 1873
d shale, with gravel and indurated clay	20	420	April 10, 1873
anite	10	430	April 12, 1873
apstone	20	450	April 13, 1873
apstone, very soft	62	512	April 15, 1873
avel and quicksand	28	540	June 13, 1873
hite indurated clay	18	558	June 30, 1873
icksand	7	565	Aug. 5, 1873
hite indurated clay	15	580	Aug. 15, 1873
hite indurated clay, a little harder	35	615	Aug. 19, 1873
hite indurated clay, a little harder	52	667	Aug. 21, 1873
e clay	3	670	Aug. 21, 1873
y, black, with indications of coal	5	675	Aug. 23, 1873
e clay	18	693	Sept. 9, 1873
y	7	700	Sept. 13, 1873
e clay	17	717	Sept. 15, 1873

The sum of $14,360 has thus far been granted for artesian wells at
is post. On September 6, 1873, it was reported that $13,000 had been
pended. It is, therefore, reasonable to suppose that the balance of
e funds ($1,360) has been, or was very nearly, exhausted by Septem-
r 15, 1873; which would make the cost of the second well thus far
,164.62.

POSTS ABANDONED.

During the year the posts of Taylor Barracks, Ky.; Old Camps G
and Lowell, and Crittenden, Ariz.; and Fort Phœnix, Mass., have
abandoned.

FIRES.

Some 5,000 buildings are under the care of this Department. Mo
them are of rude and temporary construction, and very liable to fir

Seven fires at military posts have been reported during the

Such provision to contend against fires as it is possible to make a
military posts has been made. The fire-extinguisher, which by a
of sulphuric acid on a solution of bi-carbonate of soda in a close v
throws a small stream of water some forty feet, has been extensi
distributed, and has saved a great quantity of property at mil
posts. A small, portable hand force-pump, known as Johnson's,
lately been tried in this city with such satisfactory results that it
been adopted as a part of the fire-apparatus to be supplied to mili
posts.

MILITARY RESERVES.

Seven military reserves have been declared by the Executive du
the year: Fort Whipple, Va., 26th July, 1872; Camp Harney, O
2d December, 1872; Sibley Island, Dak., 11th February, 1873;
Abraham Lincoln, 11th February, 1873; Fort Boise, Idaho, 9th A
1873; Beaver City, Utah, 12th May, 1873, and a reserve of timber-
for military purposes in Arizona, 20th June, 1873.

PUBLICATIONS.

A list of military posts, with short descriptions of the buildings
situation, and the resources of the vicinity, has been published and
tributed.

A short tract on construction in pisé and in concrete, the fo
extracted from Cresy's Dictionary of Civil Engineering, the latter
nished by the acting assistant quartermaster at Sidney Barracks
been also published and distributed. Both of these methods of buil
are better than adobe, and there are few locations in which the
skilled labor of a garrison will not be sufficient to erect all neces
walls of the quarters, store-houses, and stables in one of these st
with very little expense, if directed by intelligent officers.

The appropriation for barracks and quarters did not prove suffi
to meet the urgent demands made upon it, and toward the close o
fiscal year all new construction and repairs were arrested by ord
the Secretary of War for want of funds. Still the rents and re
expenses which it was not possible to terminate have exceeded
amount available and given rise to a deficiency estimate.

POST CEMETERIES.

As the wilderness is settled, the military posts on the old emi
routes are abandoned. At those occupied for many years are c
teries containing the graves of soldiers who fell in protecting the
grant from the savage, and the graves also of pioneers who lost
lives in settling the wilderness.

As the cost of properly and permanently inclosing these ceme
in some positions is very great, arrangements have been made to re

he bodies. Those at old Fort Kearney and Sedgwick are to be removed to Fort McPherson, where they will be re-interred, and a permanent cemetery will be inclosed.

We have reports from 113 post cemeteries, which will be duly recorded and preserved.

NATIONAL MILITARY CEMETERIES.

The number of interments in the national military cemeteries by last year's report was 317,962. One hundred and forty-eight Union soldiers have been added to the list during the year. None have been removed. The number of the known is 170,187; unknown, 147,823.

A new national cemetery is being established at Fort McPherson, Nebr., to which the bodies of those who have fallen in the Indian fights of that frontier and been buried at neighboring posts, abandoned with the progress of settlement, are to be removed.

The cemetery established on the occupation of the city of Mexico by the Army of the United States has, under a law approved on 3d March, 873, been designated a national military cemetery, and placed under the guardianship of the Secretary of War and subjected to the laws regulating other national military cemeteries. Reports and estimates of necessary improvements have been received from the consul-general of the United States, and their execution, approved by the Secretary of War, has been commenced. One of them is the sinking of an artesian well to supply water for irrigation, necessary in that dry and elevated position.

During the year brick-inclosing walls have been completed or are now building at the cemeteries of Newbern and Raleigh, N. C., Beaufort and Florence, S. C., and Memphis, Tenn.; stone walls at Danville, Glendale, Seven Pines, and Staunton, Va., at Salisbury, N. C., and Forts Leavenworth and Scott, Kans.

Superintendents' lodges have been completed during the year or are being erected at Danville, Glendale, and Seven Pines, Va., at Raleigh and Wilmington, N. C., Camp Nelson, Logan's Cross-Roads, and Lebanon, Ky., Memphis, Chattanooga, Fort Donelson, and Knoxville, Tenn., and at Fort Smith, Ark.

There remain to be provided for permanent inclosures at Andersonville, Ga., Fort Gibson, Indian Ter., Grafton, W. Va., and Fort McPherson, Nebr., and permanent lodges at Grafton, W. Va., Beverly, N. J., and Fort McPherson, Nebr.

The superintendents employed at the several cemeteries have had the aid of more labor during the past year, and an improvement in the keeping of the cemeteries is reported. The work of drainage is being prosecuted at those where it is most needed, as rapidly as the means allowed by Congress will justify.

A handsome stone gateway has been built at the Nashville cemetery, on the same design as that at Arlington, but of a local limestone of a different color.

Four civil engineers have been employed and stationed at central points in order to superintend the work of contractors upon permanent inclosures, and lodges and drainage, and to lay out such works.

HEAD-STONES.

The law of 3d March, 1873, (chapter 229, section 1, 17 Statutes,) appropriates $1,000,000 for erection of head-stones on certain conditions.

Advertisements and specifications, copies of which accompany report, have been published. The Secretary had decided that the h stones should be of white marble or granite, four inches thick, an widths and lengths described in the specifications herewith.

The list of graves requiring head-stones does not embrace those in separate national military cemeteries, nor the unknown at Salisb for which cemetery a special provision of law directs a single monu of granite to be erected. The difference in the printed list from number herein reported is due to the omission of 12,112 at Salisb and of those buried in lots in city and village cemeteries not know national.

On the 6th September, 1873, eighty bids, received in response to advertisements, were opened in this office. The prices varied gre as did the material offered; but fourteen bids, understood to agree stantially with the specifications, appeared to come within the sum of $1,000,000, to which the cost is limited by law.

All are still before the Secretary of War for award under the No decision has as yet been communicated to this office.

CLAIMS FOR QUARTERMASTER'S STORES, UNDER THE ACT OF JULY, 1864.

On 1st July, 1872, there were on file in this office 10,351 claims u this act, amounting to $6,857,006.56. One thousand nine hundred sixty-three were filed during the year, amounting to $2,024,72 Total on file, 12,314, for $8,881,731.72.

Six hundred and forty-two have been reported to the Third Au for settlement during the year. Amount claimed, $615,212.42. amount allowed on these is $296,775.90; less than 50 per cent. T hundred and twenty-five have been rejected; amount, $443,68 Total disposed of, 967 claims, amounting to $1,058,902.17, upon w $296,775.90 only has been proved to be just and allowable under law. At the same rate the 11,347 claims yet on file will be prob settled for about one-third of their face, and of the $7,822,829.55 w they claim, it is probable that about $2,600,000 will be proved t justly due.

For detailed information in regard to several other classes of cl which come under the cognizance of the Quartermaster General, r ence is made to the report of the assistant, Major Ludington, in ch of that part of this office.

Various tables and abstracts also accompany this report, which information in the business of this office important to preserve future reference.

CLOTHING AND EQUIPAGE.

The President of the United States having adopted a new uni for the Army, its manufacture was begun by this office. But the propriation made before the change of uniform, and based upon mates looking to the use of material in store, was not sufficient to vide uniforms of the new pattern for 30,000 men. The manufacture distribution were therefore arrested until, on the 1st of July, 1873, the propriation of the present fiscal year became available. Nearly all troops have now received the new uniform. The old-pattern clot stored in the Philadelphia depot has, in compliance with the law, sold at public auction, the sales amounting to $490,094.31. The sur f such clothing distributed at military posts throughout the country is eing reported for sale as fast as the new uniform takes its place.

The sale of a large quantity of clothing stored at the Western or Jef-ersonville depot, on the Ohio, is deferred until next season.

A great improvement in the shoes and boots of the Army has been ıade by the introduction of those whose sole is attached to the upper-eather by screws of brass wire. Reports are almost unanimous to the ffect that these boots and shoes last longer, and are a better protection) the feet, than the sewed or pegged boots heretofore used.

Nearly all military posts have been supplied with single bedsteads; ıe head and foot trestles are of iron, supporting slats of wood, easily emovable. They are much liked, are easily kept free from vermin, an be stacked in piles during the day so as to give room for circulation n the floors of the barrack-room, while at night they enable the men to leep singly and thus put an end to much discomfort, unavoidable with ıe two and three story wooden bunks so long used in barracks.

OTH AND MILDEW PROOFING—PROCESS OF GEORGE A. COWLES & CO.

The sum of $350,000, appropriated for the purpose by Congress, has een expended in treating the woolen and cotton material in store, ac-ording to the above process, in order to render it proof against moth nd mildew. To complete its application to all material which will need during the next fiscal year will require the sum of $100,000, for which n estimate has been submitted.

The appropriation for clothing and equipage for the past fiscal year as $900,000. The expenditures by this office were $858,412.07.

Forty-one thousand nine hundred and fifty-three dollars and thirty-hree cents were transferred, by order of the Secretary of War, to the rdnance Department, to which the manufacture and supply of knap-acks and haversacks has been transferred.

Four hundred and fifty-six thousand nine hundred and eighty-six dol-rs and eighty-two cents were received during the year from sales of lothing, including $18,832.56 derived from sales of clothing and mate-ial to officers for their personal use.

The National Asylum for Disabled Volunteers was entitled under the w to a large quantity of the old-pattern clothing. The president of he asylum obtained the authority of the Secretary of War to draw the quivalent of this clothing in shoes. One hundred and fifty-one thou-and two hundred and forty-nine pairs of pegged shoes were delivered) the asylum from the stock in depot.

The clothing returns of officers of the Army are promptly examined nd settled as received.

Full statements of the operations of the clothing and equipage branch f this office will be found at the close of this report, attached to the re-ort of Major Bingham, quartermaster, on duty in this office during the ear.

EXPLORING EXPEDITIONS.

The party under command of Lieutenant Wheeler, of the Corps of ngineers, engaged in the exploration of the territory west of the one undredth meridian, has been supplied with animals, wagons, and for-ge, for transportation of escort, of supplies, and of its collections. uch quartermasters' stores as are needed by the civilians employed pon this expedition are sold to them at cost price.

The geologic and geographic exploration of Professor F. V. Hay United States geologist, has also been aided, under special authori the Secretary of War, by sale of partially unserviceable animals equipments.

The expedition for marking the boundary between the United S and Canada, west of the Lake of the Woods, under the charge of missioner Archibald Campbell, has also received aid and assistance the Quartermaster's Department as heretofore.

During the month of November, 1872, under the order of the S tary of War, I passed over the transportation routes from the Ea the western end of Lake Superior and to the Red River of the Nort Fargo, the crossing of the Northern Pacific Railroad, and at Bre ridge, the terminus of the Saint Paul and Pacific Railroad. I had intended to visit the depot of military transportation service on the souri River, then at Sioux City, as well as the crossing of the Mis by the North Pacific, at Fort Abraham Lincoln; but I found the r southwest of Saint Paul and west of the Red River blocked with and the routes impassable. I proceeded by the Kansas Pacific Rail to Denver and to Cheyenne, and thence returned to this city. Th tension of these roads greatly aids this department in its operati but as the troops are moved further to the west and occupy posts w the mountain ranges, the total cost of transportation is not red The field of operations is changed, but remains as extensive an costly as before.

The officers who have been on duty in this office during the f year are: Col. Robert Allen, who was on duty here during the who the preceding fiscal year, and was ordered, on the 11th March, 187 the headquarters Military Division of the Pacific, at San Franc where, since March 22, 1873, he has been on duty as chief quarter ter of that division.

Maj. J. D. Bingham has taken charge of those branches of the (finance and inspection) vacated by this assignment of Colonel A in addition to his former duties, except those of the cemeterial bra to which, since June 25, 1873, Capt. A. J. McGonnigle has bee signed.

Maj. M. I. Ludington has continued on duty in this office.

All these officers have shown their usual zeal and intelligence in performance of their respective duties, and their assistance has very valuable.

The other principal stations of the Quartermaster's Department, ing the fiscal year, have been filled as follows, viz:

Col. Robert Allen, assistant quartmaster general, chief quarter ter Military Division of the Pacific, at San Francisco, from Marc 1873.

Col. D. H. Rucker, assistant quartermaster general, chief qua master Military Division of the Missouri, Chicago, Ill.

Col. Rufus Ingalls, assistant quartermaster general, chief qua master Department of the East, in charge of the general depot of Quartermaster's Department at New York City, and, from 25th No ber, 1872, also chief quartermaster Military Division of the Atlant

Col. L. C. Easton, assistant quartermaster general, chief qua master Military Division of the Atlantic to 25th November, 1872, a charge of the Philadelphia depot of the Quartermaster's Departme the principal depot of clothing and equipage of the Army—throug the year.

Col. Stewart Van Vliet, assistant quartermaster general, from ber 18, 1872, chief quartermaster Military Department of the Missouri, at Fort Leavenworth.

Lieut. Col. S. B. Holabird, chief quartermaster Department of Texas.

Lieut. Col. James A. Ekin, chief quartermaster Department of the South; also, from September 26, 1872, in charge of the Jeffersonville depot of the Quartermaster's Department, and, from December 11, 1872, chief quartermaster Military Division of the South.

Lieut. Col. A. R. Eddy, on duty at the Philadelphia depot to August 17, 1872; from August 27 and 28, 1872, depot quartermaster at San Francisco, chief quartermaster Department of California, and chief quartermaster Military Division of the Pacific, of which last duty relieved by Col. Robert Allen on March 22, 1873.

Lieut. Col. Rufus Saxton, to May 28–31, 1873, chief quartermaster Department of the Columbia, at Portland, Oreg.; from June 23, 1873, chief quartermaster Department of the Lakes, at Detroit, Mich.

Maj. A. J. Perry, chief quartermaster Department of the Platte, Omaha, Nebr.

Maj. J. G. Chandler, in charge of depot at Fort Leavenworth, and, from July 1 to October 18, 1872, acting chief quartermaster Department of the Missouri.

Maj. C. G. Sawtelle, to July 15, 1872, chief quartermaster Department of California, and depot quartermaster at San Francisco; from August 15, 1872, to close of the fiscal year, assistant to the depot quartermaster at Philadelphia, and chief quartermaster third quartermaster's district Department of the East.

Maj. J. J. Dana, chief quartermaster Department of Arizona, at Prescott.

Maj. James M. Moore, from September 1, 1872, depot quartermaster at Cheyenne.

Maj. William Myers, in charge of depot, at Washington, D. C.

Maj. B. C. Card, to April 18, 1873, depot quartermaster at San Antonio; from May 1, 1873, chief quartermaster Department of Dakota, at Saint Paul.

Capt. E. B. Grimes, depot quartermaster at Saint Louis.

Capt. A. F. Rockwell, in charge of depot at Yuma, on the Colorado, Ariz., relieved Capt. J. G. C. Lee, who had completed a full tour of duty in Arizona.

Capt. C. H. Hoyt, in charge of general depot at Jeffersonville, Ind., to September 26, 1872, and of construction of buildings to November 21, 1872. From December 23, 1872, disbursing officer District of the Lakes, at Camp Warner, Oregon; from February 26, 1873, to close of the fiscal year, chief quartermaster of the Modoc expedition.

Capt. John F. Rodgers, military store-keeper at Jeffersonville, Ind., to April 8, 1873; from December 21, 1872, he was also on duty at the Philadelphia clothing depot, so remaining to the close of the year.

These officers have administered the offices of the Government committed to their charge with ability and zeal.

One assistant quartermaster, Capt. Henry Inman, was cashiered on July 24, 1872; one military store-keeper, Capt. N. D. A. Sawyer, was cashiered on November 30, 1872; and another, Capt. G. H. A. Dimpfel, was wholly retired on August 16, 1872.

Lieut. Col. C. H. Tompkins was suspended by sentence of a court-martial for one year from the 4th January, 1873.

The work of the Department, extending over the whole territory of the United States, has been satisfactorily conducted by the officers of its establishment, aided by about three hundred subalterns deta from the line as acting assistant quartermasters.

The personal annual reports received from these officers are among the records of the Department. They contain much valu information in relation to the wants and supplies of the service, bear testimony to the intelligence and fidelity of their writers. To acting assistant quartermasters, upon whom the burden of the gre part of the detailed work of issue to troops and of care of public plies falls in consequence of the insufficient number of officers of regular establishment, this office is much indebted. I have spo elsewhere on the legislation which I believe to be necessary to do t justice, and to give them assistance much needed in the performan their laborious and responsible duties.

The principal active operations which have taxed the resources the officers of this Department during the year, have been the op tions against the Apaches in Arizona, who have been reduced to a s of comparative quiet; the campaign against the Modocs in Califo and Oregon, finally successful, and the organization and conduct of trains of the expedition to the Yellowstone, which made a succes march of seven hundred miles into an uncultivated and in great barren wilderness, and returned without serious loss of material, ing accomplished its purpose.

In connection with this expedition, the Yellowstone River was for first time navigated by steamboats, which met the troops at their c ing near Powder River and rendered essential service.

In these important active operations, Lieutenant-Colonel Eddy, c quartermaster Department of California, and Captain Hoyt, the la present with the troops in the Modoc campaign, Maj. J. J. Dana, c quartermaster Department of Arizona, Maj. B. C. Card, chief qua master Department of Dakota, and Capt. G. B. Dandy, who person organized the Yellowstone train, rendered valuable service.

I have the honor to remain, very respectfully, your obedient serv

M. C. MEIGS,
Quartermaster General, Bvt. Maj. Gen., U. S.

Hon. W. W. BELKNAP,
Secretary of War.

List of papers accompanying the annual report of the Quartermaster General for the year ending June 30, 1873.

I. Report of Maj. J. D. Bingham, quartermaster, United States Army, of the inspe branch of the Quartermaster-General's Office during the fiscal year ending 30, 1873.

A.—Report of officers on duty in the Quartermaster's Department during the year.

B.—List of line officers on duty as acting assistant quartermasters, and of the tions at which they have served during the fiscal year.

C.—Report of the stations and duties of officers of the Quartermaster's Depart July 1, 1873.

II. Report of Maj. J. D. Bingham, quartermaster, United States Army, of the fi branch of the Quartermaster General's Office during the fiscal year ending Ju 1873.

III. Report of Maj. J. D. Bingham, quartermaster, United States Army, of the o tions of the accounting branch of the Quartermaster General's Office during the year ending June 30, 1873.

V. Report of Maj. J. D. Bingham, quartermaster, United States Army, of the operations of the clothing branch of the Quartermaster General's Office during the fiscal year ending June 30, 1873.

Accompanying papers:

A.—Statement showing the quantity of clothing, camp and garrison equipage, and lothing materials in the hands of officers June 30, 1872, the quantity purchased, manfactured, sold, lost, and issued during the fiscal year, and quantity remaining on and for the supply of the Army on June 30, 1873.

B.—Statement showing expenditure on account of clothing, camp and garrison quipage, during the fiscal year.

C.—Statement of amounts received from sales of surplus serviceable, unserviceable, damaged, and irregular articles of clothing, &c., sold at the principal clothing depots; lso of the amounts derived from sales to officers, &c., during the fiscal year.

D.—Statement of the amounts received and expended on account of clothing and equipage during the fiscal year.

E.—Statement of returns of clothing, camp and garrison equipage, received, examned, and transmitted to the Treasury Department, and of letters received and written, during the fiscal year.

F.—Statement showing number of claims received and acted upon, on account of lothing and equipage, during the fiscal year.

V. Report of Maj. M. I. Ludington, quartermaster, United States Army, of the operations of the regular supplies, transportation, and barracks and quarters branch of the Quartermaster General's Office, during the fiscal year ending June 30, 1873.

A.—Statement of the indebtedness of southern railroad companies for railway material for the fiscal year.

B.—Statement of troops and stores transported during the fiscal year.

C.—Abstracts of contracts for wagon transportation received at the Quartermaster General's Office during the fiscal year.

D.—Abstract of contracts for water transportation entered into by the Quartermaster's Department during the fiscal year.

E.—Statement of vessels chartered, impressed, and employed during the fiscal year.

F.—Statement of vessels owned or purchased by the Quartermaster's Department uring the fiscal year.

VI. Report of Capt. A. J. McGonnigle, assistant quartermaster, United States Army, of the operations of the cemeterial branch of the Quartermaster General's Office during the fiscal year ending June 30, 1873.

I.—*Report of Maj. J. D. Bingham, Quartermaster, U. S. A.*

QUARTERMASTER GENERAL'S OFFICE,
Washington, D. C., September 26, 1873.

GENERAL: I have the honor to submit a report of the operations of he inspection branch of this office during the fiscal year ended June 30, 1873.

The duties of this branch continue as specified in previous annual eports, and are principally as follows:

Keeping narrative reports of stations and duties of all officers who perform duty in the Quartermaster's Department.

Examining, and preparing for such action as may be requisite, proceedings of boards of survey, inventory and inspection reports, communications on assignments of officers and distribution of employés, and annual reports of officers.

Filing and distribution of orders, circulars, rolls of honor, and other printed documents.

Preparing monthly returns of officers of the Quartermaster's Department for the Adjutant-General's Office.

Keeping books of "letters received" and "letters sent" relating individually to officers, agents, and employés of the Department.

The following is an approximate statement of the number of or
circulars, and books received and distributed during the fiscal year

	Received.	Distri
General Orders, Quartermaster-General's Office	......	
General Orders, Adjutant-General's Office	116,900	7
General Court-martial Orders, Adjutant-General's Office	36,000	2
General Orders, Headquarters of the Army	4,200	
Circulars	10,200	
Roll of honor	2,000	
Hints on horse-shoeing	......	
Regulations of the Quartermaster's Department	500	
Miscellaneous	2,400	

During the same period about 1,200 inventory and inspection re
and 132 proceedings of boards of survey have been examined and,
necessary, acted upon; 4,506 entries have been made in the bo
"letters received," and 767 letters written and indorsements m
which are recorded in the corresponding book of "letters sent," be
a much larger number recorded in books kept in other branches of
office.

I respectfully inclose herewith lists of officers on duty in the Qua
master's Department during the fiscal year.

Very respectfully, your obedient servant,

J. D. BINGHAM,
Quartermaster, Bvt. Brig. Gen., U. S.

The QUARTERMASTER GENERAL, U. S. A.

No.	Name and grade.	Rank.	Duties, &c.
	QUARTERMASTER-GENERAL.		
1	Montgomery C. Meigs	Brigadier-general and brevet major-general	In charge of the Quartermaster's Department at Washington, D. C.; from November 4 to December 4, 1872, absent on tour of inspection West and Northwest.
	ASSISTANT QUARTERMASTERS-GENERAL.		
1	Robert Allen	Colonel and brevet major-general	To March 10, 1873, on duty in the Quartermaster-General's Office, Washington, D. C.; thenceforward *en route* to the chief quartermaster Military Division of the Pacific at San Francisco, Cal.
2	Daniel H. Rucker	Colonel and brevet major-general	Chief quartermaster Military Division of the Missouri, and in charge of depot at Chicago, Ill.
3	Rufus Ingalls	Colonel and brevet major-general	Chief quartermaster Department of the East, and in charge of depot at New York City; and from December 30, 1872, chief quartermaster Military Division of the Atlantic.
4	Langdon C. Easton	Colonel and brevet major-general	In charge of Philadelphia depot at the Quartermaster's Department, and to December 30, 1872, chief quartermaster Military Division of the Atlantic at Philadelphia.
5	Stewart Van Vliet	Colonel and brevet major-general	To October 28, 1872, on leave of absence; thence chief quartermaster Department of the Missouri at Fort Leavenworth, Kans.
	DEPUTY QUARTERMASTERS-GENERAL.		
1	Samuel B. Holabird	Lieutenant-colonel and brevet brigadier-general	Chief quartermaster Department of Texas at San Antonio, Texas.
2	Robert O. Tyler	Lieutenant-colonel and brevet major-general	To August 1, 1872, chief quartermaster Military Division of the Pacific; thenceforward on leave of absence.
3	Charles H. Tompkins	Lieutenant-colonel and brevet brigadier-general	To August 11, 1872, chief quartermaster Department of Dakota at Saint Paul, Minn.; thenceforward transferring duties *en route*, under trial by general court-martial in Departments of Arizona and California, and under suspension.
4	James A. Ekin	Lieutenant-colonel and brevet brigadier-general	Chief quartermaster Department of the South at Louisville, Ky.; and from September 26, 1872, in charge of depot at Jeffersonville, Ind.; also, from December 11, 1872, chief quartermaster Military Division of the South at Louisville, Ky.
5	Frederick Myers	Lieutenant-colonel and brevet brigadier-general	Chief quartermaster District of New Mexico at Santa Fé, N. Mex.
6	Alexander Montgomery	Lieutenant-colonel	Chief quartermaster second quartermasters' district Department of the East, Boston, Mass.
7	Treadwell Moore	Lieutenant-colonel and brevet brigadier-general	Post quartermaster at Fort Adams, R. I.
8	Hyatt C. Ransom	Lieutenant-colonel	To August 9, 1872, chief quartermaster District of Montana, and post quartermaster at Fort Shaw; to May 1, 1873, transferring property *en route*, and chief quartermaster Department of Dakota at Saint Paul, Minn.; thenceforward transferring property *en route*, and chief quartermaster Department of the Gulf at New Orleans, La.
9	Asher R. Eddy	Lieutenant-colonel and brevet colonel	To August 17, 1872, chief quartermaster third quartermasters' district Department of the East, at Philadelphia, Pa.; thenceforward transferring property *en route*, and chief quartermaster Department of California, and in charge of depot at San Francisco, Cal.; from August 27, 1872, to March 22, 1873, also acting chief quartermaster Military Division of the Pacific.

A.—*Annual report of officers of the Quartermaster's Department for the fiscal year ending June 30, 1873*—Continued.

No.	Name and grade.	Rank.	Duties, &c.
10	Rufus Saxton	Lieutenant-colonel and brevet brigadier-general.	To May 22, 1873, chief quartermaster Department of the Columbia at Portland, Oreg.; thenceforward transferring property, *en route*, and chief quartermaster Department of the Lakes, at Detroit, Mich.
	QUARTERMASTERS.		
1	Judson D. Bingham	Major and brevet brigadier-general	On duty in the Quartermaster-General's Office at Washington, D. C.
2	Alexander J. Perry	Major and brevet brigadier-general	Chief quartermaster Department of the Platte at Omaha, Nebr.
3	Henry C. Hodges	Major and brevet lieutenant-colonel	Post quartermaster at Atlanta, Ga.
4	John G. Chandler	Major and brevet colonel	In charge of depot at Fort Leavenworth, Kans.; also, to October 18, 1872, acting chief quartermaster Department of the Missouri.
5	Charles G. Sawtelle	Major and brevet brigadier-general	To August 1, 1872, chief quartermaster Department of California, and in charge of depot at San Francisco, Cal.; thenceforward *en route*, and chief quartermaster third quartermasters' district Department of the East, at Philapelphia.
6	James J. Dana	Major and brevet brigadier-general	Chief quartermaster Department of Arizona, and in charge of Whipple depot at Prescott, Ariz.
7	Joseph A. Potter	Major and brevet brigadier-general	To May 31, 1873, chief quartermaster Department of the Lakes, at Detroit, Mich.; thenceforward *en route* to Louisville, Ky., and on sick-leave.
8	Richard N. Batchelder	Major and brevet colonel	To May 3, 1873, chief quartermaster first quartermasters' district department of the East at New York City; thenceforward *en route*, and chief quartermaster Department of the Columbia, at Portland, Oreg.
9	Marshall I. Ludington	Major and brevet lieutenant-colonel	On duty in the Quartermaster-General's Office at Washington, D. C.
10	James M. Moore	Major and brevet lieutenant-colonel	To August 6, 1872, in charge of office of chief quartermaster Department of the Missouri, transferring property, &c., at Fort Leavenworth, Kans.; thenceforward *en route* to, and in charge of, depot at Cheyenne, Wyo.
11	James Belger	Major	To July 26, 1872, on duty at Galveston, Tex.; to Nov. 18, 1872, *en route* to post quartermaster and transferring property at Fort Gibson, Cherokee Nation; thenceforward *en route* to, and on duty as post quartermaster at, Fort Brown, Tex.
12	William Myers	Major and brevet brigadier-general	In charge of depot at Washington, D. C.
13	Herbert M. Enos	Major and brevet colonel	During the year at Waukesha, Wis.
14	Benjamin C. Card	Major and brevet brigadier-general	To March 31, 1873, in charge of depot at San Antonio, Tex.; to April 30, 1873, transferring property and *en route;* thenceforward chief quartermaster Department of Dakota at Saint Paul, Minn.
	ASSISTANT QUARTERMASTERS.		
1	Charles A. Reynolds	Captain and brevet lieutenant-colonel	To August 20, 1872, in charge of depot at Cheyenne, Wyo.; to October 26, 1872, transferring property, *en route*, and awaiting orders; thenceforward post quartermaster at Camp Supply, Ind. T.
2	George B. Dandy	Captain and brevet brigadier-general	Post quartermaster and in charge of depot at Fort Abercrombie, Dak.
3	George H. Weeks	Captain and brevet lieutenant-colonel	To July 16, 1872, *en route;* thenceforward in charge of depot at Buffalo, N. Y.
4	Elias B. Carling	Captain and brevet lieutenant-colonel	To August 20, 1872, post quartermaster at Fort Monroe, Va.; to April 7, 1873,

			at New Orleans, La.; thenceforward *en route*, post quartermaster and assistant to depot quartermaster at San Francisco, Cal.
6	Augustus G. Robinson	Captain and brevet major	Post quartermaster at Fort Sill, Ind. T.
7	Edward D. Baker	Captain	To September 30, 1872, in charge of depot at Salt Lake City, Utah; to April 22, 1873, in charge of depot at Ogden, Utah; thenceforward *en route*, awaiting orders at Saint Paul, Minn., and chief quartermaster of the Yellowstone expedition in the Department of Dakota.
8	Henry W. James	Captain and brevet lieutenant-colonel	In charge of depot at Fort Vancouver, Wash.
9	Henry Inman	Captain and brevet lieutenant-colonel	At Fort Abercrombie, Dak., settling accounts to July 24, 1872, on which date cashiered.
10	James G. C. Lee	Captain and brevet lieutenant-colonel	To September 29, 1872, in charge of Yuma depot, Ariz.; to December 5, 1872, transferring property and *en route*; to April 5, 1873, settling accounts at Washington, D. C.; thenceforward *en route*, and on duty at Jeffersonville, Ind.
11	James Gilliss	Captain	Purchasing and disbursing quartermaster at Chicago, Ill.
12	Theodore J. Eckerson	Captain and brevet major	To October 16, 1872, awaiting orders at Chester, Pa., and Wilmington, Del.; thenceforward *en route* to, and post quartermaster at, Fort Monroe, Va.
13	Andrew J. McGonnigle	Captain and brevet colonel	To May 31, 1873, in charge of depot and post quartermaster at Fort Union, N. Mex.; thenceforward *en route* and on duty in the Quartermaster-General's Office at Washington, D. C.
14	Edward B. Grimes	Captain and brevet major	In charge of depot at Saint Louis, Mo.
15	James W. Scully	Captain and brevet colonel	Post quartermaster at Fort Rice, Dak.
16	William T. Howell	Captain and brevet major	To July 21, 1872, transferring property at Fort Griffin, Tex.; to September 13, 1872, *en route*, awaiting orders, &c.; to April 25, 1872, post quartermaster at Fort Laramie, Wyo.; thenceforward transferring property, *en route* to, and post quartermaster at, Camp Douglas, Utah.
17	Charles W. Foster	Captain and brevet colonel	To April 1, 1873, in charge of depot at Sioux City, Iowa; thenceforward in charge of depot at Yankton, Dak.
18	George W. Bradley	Captain	In charge of depot at Charleston, S. C.
19	Simon F. Barstow	Captain and brevet lieutenant-colonel	To November 7, 1872, on duty as aide-de-camp at headquarters Military Division of the Atlantic at Philadelphia; to May 10, 1873, awaiting orders; thenceforward *en route* to, and post quartermaster at, Raleigh, N. C.
20	John H. Belcher	Captain and brevet major	In charge of depot at Omaha, Neb.
21	Ezra B. Kirk	Captain	To November 26, 1872, post quartermaster at Camp Supply, Ind. T.; thenceforward transferring property, *en route* to, and post quartermaster at, Fort Dodge, Kans.
22	Amos S. Kimball	Captain	Post quartermaster at Fort Riley, Kans.
23	Almon I. Rockwell	Captain and brevet lieutenant-colonel	To July 10, 1872, post quartermaster at Fort Sill, Ind. Ter.; thenceforward transferring property, *en route* to, and in charge of, Yuma depot, Ariz.
24	Gilbert C. Smith	Captain	To May 31, 1873, post quartermaster and assistant to depot quartermaster at San Francisco, Cal.; thenceforward transferring property and *en route* to Fort Union, N. Mex.
25	Thomas B. Hunt	Captain and brevet lieutenant-colonel	To September 24, 1872, awaiting orders at San Antonio, Tex.; thenceforward *en route* to, and post quartermaster at, Fort Cross, afterward Fort Seward, Dak.
26	Edward J. Strang	Captain and brevet lieutenant-colonel	To November 30, 1872, post quartermaster at Fort Brown, Brownsville, Tex.; to March 28, 1873, transferring property, on leave of absence, and on special duty at New Orleans, La.; to April 7, 1873, post quartermaster at Fort Duncan, Tex.; thenceforward *en route* to, and in charge of, forwarding depot at Denison, Tex.
27	Nathaniel S. Constable	Captain	Post quartermaster at Fort Concho, Tex.
28	John V. Furey	Captain	In charge of depot at Tucson, Ariz.; also, from March 1, 1873, post quartermaster at Camp Lowell, Ariz.

A.—*Annual report of officers of the Quartermaster's Department for the fiscal year ending June 30, 1873*—Continued.

No.	Name and grade.	Rank.	Duties, &c.
29	**Lewis Cass Forsyth**	**Captain and brevet major**	**Post quartermaster at Fort Ellis, Mont.; and from August 8, 1872, also chief** quartermaster District of Montana.
30	**Charles H. Hoyt**	Captain	To September 26, 1872, in charge of depot at Jeffersonville, Ind., and to November 20, 1872, engaged in the construction of buildings at that depot; thenceforward *en route* to, and post quartermaster and disbursing officer, District of the Lakes, at Camp Warner, Oreg.; from February 26, 1873, to close of the fiscal year absent from his station on duty as chief quartermaster of the Modoc expedition.
31	**Asa P. Blunt**	**Captain and brevet colonel**	**To August 21 on leave of absence, awaiting orders, and *en route*; to May 20, 1873, post quartermaster at Fort Buford, Dak.; thenceforward transferring property, and on sick-leave.**
	MILITARY STORE-KEEPERS.		
1	Reuben M. Potter	Captain	Acting assistant quartermaster at Pittsburgh, Pa.
2	Charles A. Alligood	Captain	To July 7, 1872, acting assistant quartermaster at Baltimore, Md.; to December 21, 1872, on duty at the Philadelphia depot of the Quartermaster's Department; thenceforward transferring property and on leave of absence.
3	John F. Rodgers	Captain	To April 3, 1873, in charge of clothing and equipage at Jeffersonville, Ind., and from December 23, 1872, in charge of clothing and equipage at the Philadelphia depot of the Quartermaster's Department.
4	Gustavus A. Hull	Captain	To October 26, 1872, on duty as acting assistant quartermaster at Fort Sanders, Wyo.; to March 17, 1873, transferring property, *en route* to, and acting assistant quartermaster at, Camp Douglas, Utah; on leave and *en route*, to April 21, 1873; thenceforward acting assistant quartermaster at Ogden, Utah.
5	George H. A. Dimpfel	Captain	Settling accounts at San Francisco, Cal., to August 16, 1872, when wholly retired.
6	Nathan D. A. Sawyer	Captain	To July 31, 1872, acting assistant quartermaster at Victoria, Tex., awaiting orders at Indianola, Tex., and under trial by general court-martial to November 30, 1872, when cashiered.
7	John Livers	Captain	On duty at Fort Leavenworth, Kans.
8	Hamilton Lieber	Captain	On duty at Fort Snelling, Minn.
9	Verplanck Van Antwerp	Captain	On duty as acting assistant quartermaster at Baltimore, Md.
10	Addison Barrett	Captain	To March 15, 1873, on duty at Yerba Buena Island, San Francisco, Cal.; thenceforward *en route* to, and on duty at, Jeffersonville, Ind.
11	William P. Martin	Captain	To February 4, 1873, on duty as acting assistant quartermaster at Columbia, S. C., thenceforward *en route* to, and on duty at, Yerba Buena Island, San Francisco, Cal.

Grade.	In service at commencement of fiscal year.	Cashiered.	Wholly retired.	Gained by promotion.	Lost by promotion.	In service at end of fiscal year.
Quartermaster-General, with rank of brigadier-general	1					1
Assistant quartermasters-general, with rank of colonel	5					5
Deputy quartermasters-general, with rank of lieutenant-colonel	8			2		10
Quartermasters, with rank of major	16				2	14
Assistant quartermasters, with rank of captain	31	1				30
Military store-keepers, with rank of captain	11	1	1			9
	72	2	1	2	2	69

B.—*List of officers on duty as acting assistant quartermasters, and of the stations at they have served, during the fiscal year ending June* 30, 1873.

Name.	Lineal rank and regiment.	Brevet rank.	Stations.	Time during year on d A. A. Q. M.
Abbott, A. T	2d lt. 3d Art		Charleston, S. C	Nov. 1 to 30, 1872.
Abbott, L. H	1st lt., R. Q. M. 6th Cav.		Camp 6th Cav., near Fort Hays, Kans.	July — to Oct. 31, 187 May 3 to June 30, 18
Adams, H. H	1st lt. 18th Inf.		Chester, S. C	July 1 to Sept. 30, 187
Adams, John Q	1st lt. 1st Cav.	Captain.	Camp Warner, Oreg	July 1, 1872, to Mar. 1
Albee, George E	1st lt. 24th Inf.		Ringgold Barr'ks, Tex	Sept. 21, 1872, to Feb. 1
Aldrich, Bishop	1st lt., R. Q. M. 8th Inf.		David's Island, New York Harbor.	July 1 to 3, 1872.
Do	do		Ft. D. A. Russell, Wyo	Oct. 15, 1872, to June 3
Allsworth, Ed	1st lt. 25th Inf.		Fort Bliss, Tex	Oct. 1, 1872, to June 30
Anderson, John	2d lt. 18th Inf		Newberry, S. C	July 1, 1872, to Nov. 3 and Jan. 14 to May 3
Armstrong, R. G	2d lt. 1st Inf		Fort Porter, N. Y	July 1 to 31, 1872.
Arthur, William	1st lt., R. Q. M. 3d Art.	Major	Savannah, Ga	July 31 to Nov. 20, 187
Do	do	do	Fort Hamilton, New York Harbor.	Feb. 28 to June 30, 187
Aspinwall, John	2d lt. 7th Cav		Acting assistant quartermaster detachment of 7th Cavalry, at Memphis, Tenn.	Mar. 17 to 31, 1873.
Atwood, E. B	1st lt. 6th Inf.	Major	Fort Stevenson, Dak	Sept. 1, 1872, to June 3
Bacon, George E	2d lt. 16th Inf.		Frankfort, Ky	Mar. 1 to June 30, 187
Bacon, George R	2d lt. 1st Cav.		Camp Halleck, Nev	July 1, 1872, to Jan. 2
Badger, N. D	1st lt. 22d Inf.	Captain	Yellowstone Expedition, Dak.	July 11 to Oct. 31, 187
Baldwin, J. H	1st lt., R. Q. M. 18th Inf.		Columbia, S. C	Feb. 1 to June 30, 187
Bancroft, E. A	1st lt., R. Q. M. 4th Art.	Captain	Fort McHenry, Md	July 1 to Aug. 20, 187
Bandy, William M	2d lt. 19th Inf		Saint Martinsville, La.	May 9 to 31, 1873.
Barber, Merritt	1st lt. 16th Inf.	Major	Taylor Barracks, Louisville, Ky.	Mar. 1 to June 30, 187
Barnard, P. P	2d lt. 5th Cav	Captain	Ehrenberg, Ariz	July 27, 1872, to June 3
Barrett, Gregory, jr	1st lt., R. Q. M. 10th Inf.		Fort McKavett, Tex	Sept. 16, 1872, to June 3
Bascom, George M	1st lt., R. Q. M. 13th Inf.	Major	Fort Fred Steele, Wyo.	July 1, 1872, to June 3
Bates, R. F	2d lt. 18th Inf	1st lieut.	Chester, S. C	Sept. 30, 1872, to Jan. 3
Bean, John W	1st lt. 15th Inf.	Captain	Tularosa Expedition, in the field, N. Mex.	July 1 to Sept. 1, 1872
Do	do		Fort McRae, N. Mex	Oct. 1 to 31, 1872.
Beck, William H	1st lt., R. Q. M. 10th Cav.	do	Fort Gibson, Ind. T	July 1 to 31, 1872.
Beebe, William S	1st lt. ord	Major	Watervliet arsenal, West Troy, N. Y.	July 1 to Aug. 5, 1872
Do	do	do	Allegheny arsenal, Pa	Oct. 1, 1872, to June 3
Belger, E. A	1st lt. 3d Inf	do	Camp Supply, Ind. T	Apr. 1 to May 31, 187
Bell, James M	1st lt. 7th Cav	do	St. Louis depot, Mo	July 1, 1872, to Feb. 2
Do	do	do	Northern boundary survey commission.	May 23 to June 30, 187
Bird, Charles	1st lt. 23d Inf.	Lt. Col	Camp Bowie, Ariz	Aug. 15, 1872, to June 3
Birnie, Rogers, jr	2d lt. 13th Inf		Camp Douglas, Utah	Mar. 17 to June 10, 18
Bishop, John S	1st lt. 13th Inf		Camp Stambaugh, Wyo	May 16 to June 30, 187
Blair, Thomas	1st lt. 15th Inf		Fort Bayard, N. Mex	July 1, 1872, to Mar. 2
Bomus, P. S	2d lt. 1st Cav		Camp Apache, Ariz	May 1 to 15, 1873.
Booth, Charles A	2d lt. 1st Inf		Fort Brady, Mich	July 1 to Dec. 6, 1872.
Booth, Chs. A	2d lt. 7th Inf		Fort Benton, Mont	Apr. 30 to June 30, 18
Boyd, O. B	1st lt. 8th Cav		Summer camp 8th Cavalry, Canadian River, in the field, N. Mex.	July 1 to Oct. 31, 1872
Do	do		Fort Bayard, N. Mex	Mar. 12 to June 30, 18
Boyle, William H	1st lt. 21st Inf		Camp on Lost River, Oreg.	Dec. 4, 1872, to Apr. May 1 to June 30, 18
Do	do		Tule Lake, Cal	Apr. 1 to 30, 1873.
Bradford, J. H	Capt. 19th Inf		Detachment 19th Inf., A. A. Q. M.	Nov. 16 to 23, 1872.
Bradley, J. H	1st lt. 7th Inf.		Fort Benton, Mont	July 1, 1872, to Apr. 3
Brinckle, J. R	1st lt. 5th Art	Major	Fort Warren, Mass	July 1 to Dec. 11, 187
Brinkerhoff, H. R	1st lt. 15th Inf		Fort Wingate, N. Mex	July 1 to Nov. 15, 187
Brodrick, P. T	2d lt. 23d Inf		Camp Hualpai, Ariz	Oct. 1, 1872, to Apr. 1
Brown, R. P	2d lt. 4th Inf		Lexington, Ky	July 1 to Dec. 23, 187
Brush, D. H	2d lt. 17th Inf.		Grand River agency, Dak.	July 1 to 8, 1872.
Bubb, John W	1st lt., R. Q. M. 4th Inf.		Frankfort, Ky	July 1 to Dec. 15, 187
Do	do		Little Rock, Ark	Jan. 1 to May 6, 1873.
Do	do		Fort Bridger, Wyo	May 21 to June 30, 18

B.—*List of officers on duty as acting assistant quartermasters, &c.*—Continued.

Name.	Lineal rank and regiment.	Brevet rank.	Stations.	Time during year on duty as A. A. Q. M.
uffum, M. P	1st lt. 15th Inf.	Major	Fort Tulerosa, N. Mex	July 1, 1872, to Jan. 27, 1873.
ullis, John L	2d lt. 24th Inf		Fort Duncan, Tex	Apr. 15 to June 30, 1873.
urbank, J. B	1st lt. 3d Art		Barrancas, Fla	Sept. 13 to Nov. 27, 1872.
urnham, D. R	2d lt. 15th Inf		Fort Tulerosa, N. Mex	Jan. 27 to June 30, 1873.
utler, William P	2d lt. Ord		Rock Isl'd arsenal, Ill.	July 1 to Dec. 31, 1872.
alhoun, James	1st lt. 7th Cav		Elizabethtown, Ky	July 1 to 17, 1872.
Do	do		Lincolnton, N. C	Aug. 15 to Sept. 30, 1872.
Do	do		Charlotte, N. C	Oct. 1, 1872, to Feb. 28, 1873.
ampbell, John A	2d lt. 2d Art		Fort Macon, N. C	May 1 to June 30, 1873.
ampbell, W. J	2d lt. 22d Inf		Fort Randall, Dak	July 1, 1872, to June 30, 1873.
apron, T. H	1st lt. 9th Inf		Camp Vincent, Neb	July 1 to Nov. 19, 1872.
avenaugh, H. G	1st lt. 13th Inf.		Camp Douglas, Utah	July 1 to 31, 1872.
hamberlin, L. A	1st lt. 1st Art		Fort Wadsworth, N. York Harbor.	July 1 to Nov. 15, 1872.
Do	do		Fort Pulaski, Ga	Nov. 20, 1872, to Apr. 1, 1873.
hance, J. C	1st lt. 13th Inf.		Camp Douglas, Utah	Aug. 1 to Nov. 18, 1872.
hapin, E. S	2d lt. 4th Art		Cape Disappointment, Wash.	Dec. 1 to 15, 1872.
Do	do		Fort Stevens, Oreg	Jan. 1 to 31, 1873.
lague, John J	2d lt. 12th Inf		Fort Yuma, Cal	Oct. 1, 1879, to Mar. 31, 1873.
lark, Charles E	Capt. 17th Inf	Major	Camp Hancock, Dak	Nov. 1, 1872, to Mar. 31, 1873.
lark, E. R	2d lt. 10th Inf		Austin, Tex	July 1, 1872, to May 31, 1873.
lifford, J. C	2d lt. Ord		Benicia Arsenal, Cal	July 1, 1872, to June 30, 1873.
oe, John N	Capt. 20th Inf		Fort Totten, Dak	July 1 to Oct. 31, 1872.
onrad C. H	1st lt. 15th Inf		Newport Barracks, Ky	July 1, 1872, to Mar. 31, 1873.
ourtney, M. L	1st lt. 25th Inf	Major	Fort Stockton, Tex	July 31, 1872, to June 30, 1873.
raig, Samuel	1st lt. 8th Inf		Beaver City, Utah	July 1, 1872, to June 30, 1873.
raigie, D. J	1st lt. R. Q. M. 12th Inf.		Angel Island, Cal	July 1, 1872, to June 30, 1873.
ranston, A	1st lt. 4th Art		Point San José, Cal	Nov. 16 to Dec. 1, 1872.
ranston, J. R	2d lt. 10th Inf		Brazos Santiago, Tex	July 1 to 25, 1872.
rawford, Emmet	1st lt. 3d Cav		Chugwater Station, Wyo.	July 1 to Oct. 26, 1872.
rawford, M., jr	2d lt. 2d Art		Fort McHenry, Md	Nov. 23 to Dec. 11, 1872.
raycroft, W. T	2d lt. 7th Cav		Unionville, S. C	Dec. 1 to 20, 1872, and Feb. 1 to 28, 1873.
urry, James	1st lt. 5th Art		Fort Monroe, Va	Aug. 20 to Oct. 19, 1872.
urtis, E. S	2d lt. 2d Art		Fort Stevens, Oreg	Aug. 17 to Oct. 23, 1872.
Do	do		Fort Johnston, N. C	Nov. 17, 1872, to June 30, 1873.
usack, Patrick	1st lt. 9th Cav	Captain	Fort Clark, Tex	Jan. 1 to Apr. 30, 1873.
ushing, H. C	Capt. 4th Art	Major	Sitka, Alaska	May 1 to June 30, 1873.
uster, B. M	1st lt. 24th Inf		Fort Duncan, Tex	Oct. 1, 1872, to Apr. 15, 1873.
Do	do		Fort McIntosh, Tex	May 1 to June 30, 1873.
uster, T. W	1st lt. 7th Cav		Unionville, S. C	July 1 to Nov. 30, 1872.
Do	do		Oxford, Miss	Jan. 9 to Feb. 28, 1873.
avies, F. L	2d lt. 22d Inf		Lower Brulé Agency, Dak.	Sept. 8, 1872, to June 30, 1873.
avis, C. E. L. B	1st lt. Eng		Willet's Point, N. Y. Harbor.	July 1 to Nov. 30, 1872.
avis, Charles L	1st lt. 10th Inf	Major	Ringgold Barracks, Tex.	July 1 to Aug. 31, 1872.
avis, George B	2d lt. 5th Cav		Camp Bowie, Ariz	July 1 to Aug. 15, 1872.
Do	do		Calabosas, Ariz	Sept. 1 to Nov. 30, 1872.
empsey, Charles A	1st lt. & adjt. 2d Inf.		Mobile, Ala	Apr. 12 to 23, 1873.
e Rudio, C. C	2d lt. 7th Cav		Livingston, Ala	Oct. 1 to 24, 1872.
enison, D. S	2d lt. 5th Art		Fort Sullivan, Me	July 1 to Aug. 16, 1872.
eshler, G. W	2d lt. 1st Art		Fort Ontario, N. Y	July 1 to Sept. 30, 1872.
illenback, J. W	1st lt. 1st Art		Savannah, Ga	Nov. 19, 1872, to June 30, 1873.
odge, F. L	2d lt. 23d Inf		Fort Whipple, Ariz	Oct. 1, 1872, to Jan. 31, 1873.
odge, H. C	1st lt. 2d Art	Captain.	Sitka, Alaska	July 1, 1872, to Jan. 27, 1873.
ove, William E	1st lt. 12th Inf		Camp Independence, Cal.	July 1, 1872, to June 30, 1873.
rury, Thomas	1st lt. 2d Inf		Saint Augustine, Fla	Oct. 3 to Nov. 11, 1872, and Dec. 12, 1872, to June 30, '73.
udley, E. S	2d lt. 2d Art		Fort Cape Disappointment, Wash.	July 1 to Oct. 31, 1872.
Do	do		Fort Macon, N. C	Jan. 1 to May 1, 1873.
uff, George	2d lt. 1st Inf	1st lt.	Fort Gratiot, Mich	July 1, 1872, to May 31, 1873.
uggan, W. T	2d lt. 10th Inf		Brazos Santiago, Tex	July 25 to Dec. 7, 1872.
utton, C. E	1st lt. Ord		Washington Arsenal, D. C.	July 1, 1872, to June 30, 1873.
wyer, Philip	Capt. 5th Cav		Camp Date Creek, Ariz	Aug. 1 to 29, 1872.
akin, C. P	1st lt. 1st Art	Major	Key West, Fla	Apr. 1 to June 30, 1873.
astman, J. E	1st lt. 2d Art		Alcatraz Island, Cal	July 1 to Nov. 18, 1872.
Do	do		Fort Foote, Md	Dec. 13, 1872, to June 30, 1873.
bstein, F. H. E	2d lt. 21st Inf		Camp Date Creek, Ariz	July 1 to 31, 1872.
Do	1st lt. 21st Inf		Camp San Juan Island, Wash.	Oct. 1, 1872, to June 30, 1873.
dgerly, W. S	2d lt. 7th Cav		Opelika, Ala	July 1, 1872, to Mar. 31, 1873.

B.—*List of officers on duty as acting assistant quartermasters, &c.*—Continued.

Name.	Lineal rank and regiment.	Brevet rank.	Stations.	Time during year on duty A. A. Q. M.
Edmunds, F. H	2d lt. 1st Inf.		Fort Brady, Mich	Dec. 6, 1872, to June 30, 18
Elderkin, W. A	Capt. C. S., U. S. A.	Major	Pueblo, Colo	July 1, 1872, to Mar. 31, 1 and June 1 to 30, 1873.
Elliott, W. L	Lt. col. 1st Cav.	Maj-gen.	Benicia Barracks, Cal	Jan. —, 1873, to May 31, 1
Engle, John B	1st lt. 15th Inf.		Fort Craig, N. Mex	July 1, 1872, to June 30, 1
Evans, George W	1st lt. & adjt. 21st Inf.	Captain.	Fort Vancouver, Wash	Feb. 1 to May 31, 1873.
Farnsworth, H. J	1st lt. 8th Cav.	do	Fort McRae, N. Mex	Nov. 1, 1872, to June 30, 1
Fechét, E. O	2d lt. 2d Art.		Fort Stevens, Oreg	July 1 to Aug. 17, 1872.
Ferris, Samuel P	Capt. 4th Inf	Major	Lebanon, Ky	July 1 to Dec. 17, 1872.
Fletcher, R. H	2d lt. 21st Inf.		Fort Lapwai, Ind. T	Mar. 7 to June 30, 1873.
Foote, George F	1st lt. R. Q. M. 8th Cav.	Captain.	Fort Union, N. Mex.	July 1 to Sept. 12, 1872.
Forse, A. G	1st lt. 1st Cav.		Camp McDermit, Nev.	June 7 to 30, 1873.
Fountain, S. W	2d lt 8th Cav		Kort Wingate, N. Mex.	Nov. 15, 1872, to June 15, 1
French, Thomas H	Capt. 7th Cav.		Oxford, Miss	Jan 1 to 9, 1873.
Fuger, Fred	1st lt. 4th Art.	Captain.	Fort Washington, Md.	July 1 to Sept. 19, 1872.
Do	do	do	Alcatras Island, Cal.	Nov. 18, 1872, to June 30, 1
Gibbs, E. B	1st lt. 6th Inf.		Office C. Q. M., Dept. South, Louisville, Ky.	July 1 to Dec. —, 1872.
Do	do		Saint Paul, Minn	May 14 to June 30, 1873.
Gibson F. M	1st lt. 7th Cav.		Livingston, Ala	Oct. 24 to ———, 1872.
Goodwin, E. A	2d lt. 8th Cav.		Fort Selden, N. Mex.	July 1, 1872, to June 30, 1
Gray, C. N	1st lt., Adj't 25th Inf.		Fort Davis, Tex	Sept. 1, 1872, to Jan. 16, 1
Grealish, M. J	Capt., O. S. K.		Pikesville Arsenal, Md	July 1, 1872, to June 30, 1
Greene, A. P	1st lt. 4th Art.		Fort Macon, N. C	July 1 to Nov. 17, 1872.
Greenough, G. G	do		Point San José, Cal	March 31 to May 9, 1873.
Do	do		In the field	May 9 to June 30, 1873.
Grier, M. C	do		Fort Foote, Md	July 1 to Oct. 31, 1872.
Do	do		Battalion quartermaster Modoc expedition in the field.	Jan. 21 to June 30, 1873.
Grimes, George S	1st lt. 2d Art.		Fort Whipple, Va	July 1, 1872, to June 30, 1
Guthrie, John B	1st lt. 13th Inf.		Camp Brown, Wyo	July 1, 1872, to June 30, 1
Hall, R. M	1st lt., R. Q. M. 1st Art.	Colonel	Fort Hamilton, New York Harbor.	July 1 to Nov. 7, 1872.
Do	do	do	Charleston, S. C	Dec. 1, 1872, to June 30, 1
Halloran, James	1st lt. 12th Inf.		Camp Wright, Cal	July 1, 1872, to June 30, 1
Hamner, W. H	2d lt. 20th Inf.		Fort Ripley, Miss	Aug. 1, 1872, to June 30, 1
Hamilton, John	1st lt. 1st Inf.		Fort Gratiot, Mich	June 1 to 30, 1873.
Hanway, John W	2d lt. 3d Inf.		Fort Reynolds, Colo.	July 1 to Aug. 31, 1872.
Do	do		Fort Lyon, Colo	Jan. 1 to June 30, 1873.
Harrold, C. W	1st lt. 3d Art		Fort Hamilton, New York Harbor.	Feb. 1 to 28, 1873.
Hart, V. K	Capt. 7th Cav.	Lt.-col	Lincolnton, N. C	July 15 to Aug. 15, 1872.
Hart, Daniel	1st lt. 25th Inf.	Major	Fort Quitman, Tex	July 1, 1872, to June 30, 1
Hartz, W. T	1st lt. 15th Inf.	do	Fort Garland, Colo	July 1, 1872, to June 30, 1
Harwood, Paul	1st lt. 20th Inf.		Fort Pembina, Dak	July 1, 1872, to June 30, 1
Haskell, H. L	2d lt. 12th Inf.		Camp Gaston, Cal	April 14, to June 30, 1873.
Hatch, John P	Maj. 4th Cav	Br.-gen.	In charge of office chief quartermaster, Department Texas.	May 19 to June 28, 1873.
Hathaway, F. H	2d lt., R. Q. M. 5th Inf.	Captain	Fort Leavenworth, Kans.	July 1, 1872, to June 30, 1
Haughey, James A	1st lt. 21st Inf.		Ehrenberg, Ariz	July 1 to 27, 1872.
Hawley, William	1st lt. 20th Inf.		Fort Wadsworth, Dak.	Aug. 1 to Dec. 12, 1872.
Hay, Charles	1st lt. 23d Inf		Camp McDowell, Ariz.	Oct. 1, 1872, to June 30, 1
Hein, O. L	2d lt. 1st Cav		Camp Verde, Ariz	July 1 to Sept. 30, 1872.
Heintzleman, C. S	1st lt. 3d Art		Key West, Fla	Sept. 1 to Nov. 17, 1872.
Do	do		Fort Niagara, N. Y	Dec. 8, 1872, to June 30, 1
Hennisee, A. G	1st lt. 8th Cav.		Fort Stanton, N. Mex.	Oct. 31, 1872, to June 30, 1
Hill, R. M	Capt. Ord	Major	Indianapolis Arsenal, Ind.	July 1, 1872, to June 30, 1
Hoag, W. R	2d lt. 21st Inf		Fort Colville, Wash	July 31, 1872, to June 30, 1
Hobbs, C. W	2d lt. 3d Art	Captain	Key West, Fla	July 1 to Aug. 31, 1872.
Hoffman, A. W	1st lt. 10th Inf.		Austin, Tex	June 1 to 30, 1873.
Howard, O. H	1st lt. 5th Art.	Major	Fort Trumbull, Conn	July 1, 1872, to June 30, 1
Howe, Albion	1st lt. 4th Art.	Captain	Charlotte, N. C	July 1 to Sept. 30, 1872.
Howell, R. G	1st lt. 2d Art		Raleigh, N. C	April 1 to May 25, 1873.
Hoyt, George S	2d lt. 18th Inf.		Atlanta, Ga	July 1 to 31, 1872.
Hubbard, E. B	1st lt. 2d Art		Camp San Juan Island, Wash.	July 1 to Sept. 30, 1872.
Do	do		Fort Macon, N. C	Nov. 17 to Dec. 31, 1872.
Hubbell, H. W., jr	2d lt. 1st Art		Fort Pulaski, Ga	April 1 to June 30, 1873.
Hugo, W. H	1st lt. 9th Cav.		Ringgold Barracks, Tex	Sept. 1 to 21, 1872.
Humbert, James	1st lt. 17th Inf.		Camp Hancock, Dak	Apr. 1 to June 30, 1873.
Humphrey, Charles F	1st lt. 4th Art.		Fort Johnston, N. C	July 1 to Nov. 17, 1872.
Do	do		Point San José, Cal	Dec. 1, 1872, to Mar. 31, 187
Humphreys, H. H	1st lt. 15th Inf.	Lt. Col	Fort Cummings, N. Mex	Aug. 1, 1872, to April 30, 1

B.—*List of officers on duty as acting assistant quartermasters, &c.*—Continued.

Name.	Lineal rank and regiment.	Brevet rank.	Stations.	Time during year on duty as A. A. Q. M.
unter, Ed	1st lt. R. Q. M. 1st Cav.		Benicia Barracks, Cal	July 1 to Dec. 10, 1872.
urst, J. H	2d lt. 12th Inf.	Captain.	Beale's Springs, Ariz	July 1, 1872, to June 30, 1873.
yer, John K	1st lt. 18th Inf.		Laurens. S. C	Aug. 17, 1872, to Jan. 25, 1873.
galls, Jas. M	1st lt. 1st Art		Fort Jefferson, Fla	Nov. 17, 1872, to June 30, 1873.
gersoll, Ed	Maj. & O. S. K		Springfield Armory, Mass.	July 1, 1872, to June 30, 1873.
win, D. A	1st lt. 4th Cav.		Saint Louis Depot, Mo.	Feb. 28 to June 30. 1873.
es, R. A	2d lt. 5th Art.		Fort Preble, Me	July 1 to Aug. 13, 1872, and Sept. 19, 1872, to Mar. 31, 1873.
acobs, J. W	1st lt. R. Q. M. 7th Inf.		Fort Shaw, Mont	Mar. 11 to June 30, 1873.
ocelyn, S. P	2d lt. 21st Inf		Camp Warner, Oreg	Mar. 1 to June 30, 1873
ohnson, John B	1st lt., adj. 3d Cav.		Fort McPherson, Neb	Apr. 1 to May 1, 1873.
ohnston, John L	1st lt. R. Q. M. 21st Inf.	Captain	Fort Vancouver, W. T.	June 1 to 30, 1873.
ones, F. B	1st lt. R. Q. M. 3d Inf.		Fort Hays, Kans	July 1, 1872, to June 30, 1873.
ones, S. R	1st lt. 4th Art		Raleigh, N. C	July 1 to Nov. 17, 1872.
ordan, Charles	1st lt. 16th Inf		Jackson, Miss	July 1 to 31, 1872.
oeffe, Joseph	1st lt. 5th Art	Captain.	Plattsburgh Barracks, N. Y.	July 1 to Dec. 31, 1872.
eller, Charles	1st lt. 2d Inf		Spartanburgh, S. C	Mar. 1 to June 24, 1873.
elton, D. H	1st lt. 10th Inf.		San Antonio, Tex	July 1, 1872, to Mar. 31, 1873.
Do	do		A. A. Q. M. to Board of Officers for the purchase of horses for 9th Cavalry, at Ringgold Barracks, Tex.	May 12 to June 13, 1873.
endall, H. M	1st lt. 6th Cav.		Oxford, Miss	July 1 to Dec. 30, 1872.
Do	do		Fort Harker, Kans	Jan. 6 to Apr. 2, 1873.
ing, James S	1st lt. 12th Inf		Fort Hall, Idaho	July 1, 1872, to June 30, 1873.
ingsbury, Geo. W	2d lt. 12th Inf.		Camp Gaston, Cal	July 1, 1872, to Apr. 14, 1873.
ingsbury, H. P	2d lt. 6th Cav.		Meridian, Miss	July 1 to Dec. 15, 1872.
Do	do		Fort Harker, Kans	Dec. 22, 1872, to Jan. 6, 1873.
ingsbury, W. E	1st lt. 11th Inf.		Fort Griffin, Tex	Dec. 16, 1872, to June 30, 1873.
nox, Thomas T	2d lt. 1st Cav.		Camp McDermit, Nev.	July 1, 1872, to June 7, 1873.
raszynski, M	2d lt. 12th Inf.		Camp Mojave, Ariz	July 1 to 31, 1872.
rause, William	1st lt. 3d Inf.		Fort Dodge, Kans	July 1 to Nov. 10, 1872.
ress, John A	1st lt. Ord	Major	Vancouver Arsenal, Wash.	July 1, 1872, to June 30, 1873.
yle, William J	1st lt. 11th Inf.		Fort Richardson, Tex	July 1, 1872, to Jan. 1, 1873.
awton, H. W	1st lt. R. Q. M. 4th Cav.		Fort Clark, Tex	Apr. 30 to June 30, 1873.
e, J. M	1st lt. 9th Inf.		Fort D. A. Russell, Wyo.	Aug. 31 to Oct. 15, 1872.
eefe, John G	1st lt. R. Q. M. 19th Inf.	Captain	Baton Rouge, La	July 1, 1872, to Apr. 30, 1873
Do	do	do	Jackson Barracks, La	May 1 to June 30, 1873.
omia, Luigi	1st lt. 5th Art		Fort Wadsworth, N. Y	Nov. 15 to 30, 1872.
ord, James H	1st lt. R. Q. M. 2d Art.	Major	Presidio, San Francisco, Cal.	July 1 to Nov. 15, 1872.
Do	do	do	Fort McHenry, Md	Dec. 11, 1872, to June 30, 1873.
ord, Thomas W	1st lt. R. Q. M. 20th Inf.		Fort Snelling, Minn	July 1, 1872, to June 30, 1873.
ove, George M	2d lt. 16th Inf.	Lt. Col.	Frankfort, Ky	Dec. 15, 1872, to Feb. 28, 1873.
Do	do	do	Lebanon, Ky	Mar. 1 to June 30, 1873.
uff, Edmund	1st lt. 8th Cav.		Summer camp 8th Cav. Canadian River, N. Mex.	Apr. 28 to June 30, 1873.
ac Gowan, A. B	Capt. 12th Inf.		Fort Yuma, Cal	April 1 to June 23, 1873.
ackay, William S	1st lt. 3d Inf.		Fort Lyon, Colo	July 1 to Dec. 31. 1872.
acklin, J. E	2d lt. 22d Inf		Fort Sully, Dak	June 1 to 30, 1873.
aclay, Isaac W	1st lt. Ord		Watervliet Arsenal, West Troy, N. Y.	Aug. 5, 1872, to Jan. 1, 1873.
ac Nutt, Ira	2d lt. 3d Art		Barrancas, Fla	July 1 to Sept. 13, 1872.
ahon, S. K	1st lt. 16th Inf	Captain.	Holly Springs, Miss	Dec. 11 to 31, 1872.
Do	do	do	Oxford, Miss	June 12 to 30, 1873.
aize, William K	1st lt. 20th Inf	do	Camp Sykes, Dak	July 1 to Sept. 7, 1872.
Do	do	do	Fort Wadsworth, Dak	Dec. 12, 1872, to June 30, 1873
anley, John A	do		Fort Ripley, Minn	July 1 to 31, 1872.
anning, William C	1st lt. 23d Inf.		Camp Apache, Ariz	May 15 to June 30. 1873.
ansfield, F. W	2d lt. 11th Inf		Acting assistant quartermaster of escort to Texas Pacific Railroad survey.	Jan. 1 to May 26, 1873.
arcotte, Henry	1st lt. 17th Inf	Captain	Newport Barracks, Ky	April 1 to June 30, 1873.

B.—*List of officers on duty as acting assistant quartermasters, &c.*—Continued.

Name.	Lineal rank and regiment.	Brevet rank.	Stations.	Time during year on duty A. A. Q. M.
Markley, A. C	1st lt. 24th Inf.		Fort McIntosh, Tex	July 1, 1872, to April 30, 18
Marshall, J. M	1st lt. 4th Art		West Point, N. Y	Sept. 1, 1872, to June 30, 18
Mathey, E. G	1st lt. 7th Cav		Spartanburgh, S. C	July 1, 1872, to March 1, 18
McCallum, William B	1st lt. 5th Art		Fort Preble, Me.	Aug. 13 to Sept. 19, 1872.
McCauley, C. A. H	2d lt. 3d Art		Fort Wadsworth, N. Y.	Nov. 30, 1872, to May 31, 18
McClellan, John	1st lt. 5th Art		Fort Warren, Mass	Dec. 11, 1872, to June 30, 18
McConihe, Samuel	1st lt. 14th Inf.	Lt. Col.	Sidney Barracks, Nebr.	June 11 to 30, 1873.
McCrea, Tully	Capt. 1st Art	Major	West Point, N. Y	July 1 to Aug. 31, 1872.
McDermott, George B	2d lt. 23d Inf		Camp Verde, Ariz	Oct. 1, 1872, to June 30, 187
McDonald, Robert	1st lt. 5th Inf		Fort Larned, Kans	March 12 to April 15, 1873.
McDougall, Thos. M	1st lt. 7th Cav	Captain.	Unionville, S. C	Dec. 20, 1872, to Jan. 31, 18
McGilvray, John	1st lt. 2d Art	do	Raleigh, N. C	Nov. 17, 1872, to March 31, "
McIntyre, A	2d lt. 2d Inf		Chattanooga, Tenn	July 1, 1872, to June 30, 18
McKee, George W	1st lt. Ord	Major	St. Louis Arsenal, Mo	Do.
McNaught, John S	Capt. 20th Inf		Fort Wadsworth, Dak	July 1 to 31, 1872.
McNutt, John	Maj. Ord	Colonel	Columbus Arsen'l, Ohio	July 1, 1872, to June 30, 18
McTaggart, C. P	1st lt. 17th Inf		Grand River ag'y, Dak.	May 1 to June 30, 1873.
Metcalfe, Charles	2d lt. 17th Inf		do	Dec. 21, 1872, to May 1, 18
Michaelis, O. E	1st lt. Ord	Captain.	Watertown Arsenal, Mass.	July 1, 1872, to June 30, 18
Michler, Frank	2d lt. 5th Cav		Camp Hualpai, Ariz	May 8 to June 30, 1873.
Miles, Evan	Capt. 21st Inf		Fort Colville, Wyo	July 1 to 31, 1872.
Miller, C. P	1st lt. 4th Art		Fort McHenry, Md	Aug. 20 to Oct. 31, 1872.
Do	do		Presidio, San Francisco, Cal.	Nov. 15, 1872, to March 31, "
Miller, James	1st lt. R. Q. M. 2d Inf.		Mobile, Ala	July 1, 1872, to April 12, 18 and April 23 to June 30, "
Miller, M. P	Capt. 4th Art	Lt. Col.	Fort Stevens, Oreg	Dec. 1 to 31, 1872.
Miller, William A	1st lt. 18th Inf.		Newberry, S. C	Nov. 30, 1872, to Jan. 14, 18 and May 31 to June 30, 18
Miller, William H	2d lt. 9th Inf		Red Willow Cr'k, Nebr	July 1 to Nov. 3, 1872.
Moore, Francis	Capt. 9th Cav		Fort Clark, Tex	July 1 to Sept. 30, 1872.
Morgan, A. S. M	Capt. O. S. K.		Allegheny Arsenal, Pa	Do.
Morris, L. M	1st lt. 20th Inf	Captain.	Fort Totten, Dak	Oct. 31, 1872, to June 30, 18
Morris, Louis T	Capt. 3d Inf	Major	Fort Wallace, Kans	Nov. 30, 1872, to Feb. 8, 18
Morton, Alfred	1st lt. R. Q. M. 9th Inf.		Ft. D. A. Russell, Wyo	July 1 to Aug. 31, 1872.
Do	do		Omaha Barracks, Nebr	Oct. 1, 1872, to June 30, 18
Murphy, John	2d lt. 14th Inf		Camp on Laramie River, Wyo.	May 17 to —, 1873.
Nave, A. H	2d lt. 7th Cav		Shelbyville, Ky	July 1 to Sept. 30, 1872.
Neide, Horace	1st lt. 4th Inf	Major	Paducah, Ky	July to August 8, 1872.
Nelson, Wm. H	1st lt. 7th Inf		Camp Baker, Mont	July 1, 1872, to June 30, 187
Nesmith, L. A	2d lt. 12th Inf		Camp Halleck, Nev	Jan. 27 to June 30, 1873.
Nettarville, W. McC	Capt. 21st Inf		Fort Stevens, Oreg	Oct. 23 to Nov. 30, 1872.
Newkirk, E. P	1st lt. 4th Art		Rutherfordton, N. C	Sept. 1 to Oct. 30, 1872.
Nixon, John B	1st lt. R. Q. M. 24th Inf.		Fort McKavett, Tex	July 1 to Sept. 16, 1872.
Northup, E. B	1st lt. 17th Inf.		Grand River Agency, Dak.	July 8 to Sept. 7, 1872.
Nowlan, H. J	1st lt. R. Q. M. 7th Cav.		Newport Barracks, Ky.	July 1, 1872, to Feb. 28, 1873
Do	do		Det. 7th Cavalry in the field, Dak.	——, 1873, to June 15, 1873.
O'Brien, John J	2d lt. 4th Inf		Mount Sterling, Ky	July 1 to Dec. 23, 1872.
O'Connell, John J	2d lt. 1st Inf		Madison barr'ks, N. Y	Oct. 1, 1872, to June 30, 1873
O'Conner, Stephen	1st lt. 23d Inf		Camp Crittenden, Ariz.	July 1, 1872, to Mar. —, 187
Olmstead, J. A	1st lt. 13th Inf		Camp Stambaugh, Wyo	Oct. 1, 1872, to May 16, 1873.
Osgood, H. B	1st lt. 3d Art		Fort Jefferson, Fla	July 1 to Nov. 17, 1872.
Do	do		Fort Ontario, N. Y	Dec. 7, 1872, to June 30, 1873
Pardee, J. H	2d lt. 23d Inf		New Camp Grant, Ariz	Feb. 1 to May 10, 1873.
Parnell, William R	1st lt. 1st Cav	Lt. Col	Camp Harney, Oreg	July 1 to Oct. 31, 1872.
Paul, C. R	1st lt. 18th Inf	Captain.	Sumter, S. C	July 1, 1872, to June 30, 187
Payson, A. H	1st lt. Eng'rs		Willet's Point, N. Y	Dec. 1, 1872, to June 30, 187
Penney, Charles G	1st lt. R. Q. M. 6th Inf.	Captain.	Fort Buford, Dak	July 1 to Aug. 22, 1872, a May 20 to June 30, 1873.
Pepoon, Silas	1st lt. 10th Cav.		Fort Gibson, Ind. T	Mar. 1 to April 22, 1873.
Do	do		Det. 9th Inf. *en route* from Fort Gibson to Fort Sill, Ind. T.	April 25 to May 5, 1873.
Pickett, George B	1st lt. 16th Inf.		Oxford, Miss	Dec. 30, 1872, to Jan. 1, 18 and Mar. 1 to June 12, 18
Pierce, F. E	1st lt. 1st Inf		Fort Niagara, N. Y	Nov. 1 to Dec. 8, 1872.
Pike, A. F	1st lt. 13th Art		Fort Wood, New York Harbor.	Dec. 8, 1872, to June 30, 187
Pitman, John	2d lt. Ordnance.		Watervliet Arsenal, West Troy, N. Y.	Jan. 1 to June 30, 1873
Pollock, Robert	Capt. 21st Inf		Fort Klamath, Oreg	July 1, 1872, to June 30, 187
Pond, George E	2d lt. 8th Cav		Camp Loma, Colo	June 1 to 30, 1873.

B.—*List of officers on duty as acting assistant quartermasters, &c.*—Continued.

Name.	Lineal rank and regiment.	Brevet rank.	Stations.	Time during year on duty as A. A. Q. M.
ope, John, jr	2d lt. 1st Art.		Fort Wood, New York Harbor.	July 1 to Dec. 8, 1872.
orter, James E	1st lt. 7th Cav.		Lincolnton, N. C	July 1 to 15, 1872.
Do	do		Shelbyville, Ky	Oct. 1 to Dec. 30, 1872.
Do	do		Lebanon, Ky	Dec. 17, 1872, to Feb. 28, 1873.
otts, R. D	1st lt. 3d Art		Savannah, Ga	July 1 to 31, 1872.
rice, Butler D	2d lt. 4th Inf.		Paducah, Ky	Aug. 8, 1872, to Jan. 14, 1873.
rice, George F	1st lt. R. Q. M. 5th Cav.		Camp McDowell, Ariz.	July 1 to Sept. 30, 1872.
rince, William	1st. lt. Ord	Captain	Frankford Arsenal, Pa.	July 1, 1872, to June 30, 1873.
ullman, J. W	2d lt. 8th Cav.		In the field, camp at Tierra Amarilla, (old Fort Lowell,) N. Mex.	July 1 to Oct. —, 1872.
Do	do		Fort Union, N. Mex.	June 1 to 30, 1873.
urington, George A.	Capt. 9th Cav.	Colonel	Parkersburgh, W. Va., recruiting-officer, A. A. Q. M.	July 1 to Nov. 13, 1872.
uinan, William R.	2d lt. 4th Art.		Sitka, Alaska	——13, to April 30, 1873.
uinby, De H. G	2d lt. 5th Inf.		Fort Larned, Kans.	July 1, 1872, to Mar. 10, 1873.
uimby, H. B.	1st. lt. R. Q. M. 25th Inf.		Fort Davis, Tex	July 1 to Aug. 31, 1872, and Jan. 16 to June 30, 1873.
uinby, Ira	1st lt. R. Q. M. 11th Inf.		Fort Griffin, Tex.	July 1 to Dec. 16, 1872.
Do	do		Fort Richardson, Tex	Jan. 1 to June 30, 1873.
andall, E. L	1st lt. 5th Inf.		Fort Harker, Kans	July 1 to Oct. 31, 1872.
Do	do		Fort Larned, Kans.	April 15 to June 30, 1873.
aphall, A. W	1st lt. 11th Inf.		San Antonio, Tex	April 1 to June 30, 1873.
awolle, William C.	1st lt. R. Q. M. 2d Cav.		Omaha Barracks, Nebr.	July 1 to Sept. 30, 1872.
Do	do		Fort Sanders, Wyo.	Nov. 1, 1872, to June 30, 1873.
ay, P. H.	2d lt. 8th Inf.		Det. 8th Inf., Dak	July 10 to Oct. 20, 1872.
eedy, W. J	1st lt. 22d Inf.		Lower Brule Agency, Dak.	July 1 to Sept. 8, 1872.
exford, William H.	Capt. O. S. K		Mount Vernon Arsenal, Ala.	July 1, 1872, to June 30, 1873.
heem, E. B	2d lt. 21st Inf.		Fort Vancouver, Wash.	Dec. 1 to 31, 1872.
ice, William F.	1st lt. 23d Inf.		Camp Hualpai, Ariz	April 12 to May 8, 1873.
Do	do		Fort Yuma, Cal	May 23 to June 30, 1873.
ichards, William V.	1st lt. R. Q. M. 16th Inf.		Nashville, Tenn	July 1, 1872, to June 30, 1873.
iley, Thomas F.	1st lt. 21st Inf.		Camp Harney, Oreg.	Nov. 1, 1872, to Dec. 31, 1872.
oberts, C. S	1st lt. 17th Inf	Captain	Cheyenne Ag'cy, Dak	July 1, 1872, to June 30, 1873.
obinson, F. U	2d lt. 2d Cav.		Camp Stambaugh, Wyo	July 1 to Sept. 30, 1872.
obinson, Thomas B	1st lt. 19th Inf.		Little Rock, Ark	July 1 to Dec. 19, 1872.
ockwell, Charles H.	1st lt. R. Q. M., 5th Cav.		Camp Grant, Ariz	July 1 to Nov. 23, 1872.
ockwell, James, jr.	2d lt. adj't, 1st Cav.		Benicia Barracks, Cal.	Dec. 10, 1872, to Jan. —, 1873, and May 31 to June 30, 1873.
odgers, C. P	1st lt. 5th Cav.		Camp Grant, Ariz	May 10 to June 30, 1873.
oder, John W	1st. lt. adj't, 4th Art.		Point San José, Cal	May 9 to June 30, 1873.
oemer, Paul	1st lt. 5th Art.		Fort McHenry, Md	Nov. 1 to 23, 1872.
ogers, B. H	1st lt. 13th Inf		Fort Bridger, Wyo	July 1, 1872, to May 21, 1873.
ogers, J. Sumner	2d lt. 1st Inf.		Fort Wayne, Mich	July 1, 1872, to June 30, 1873.
ogers, William W.	1st lt. 9th Inf.	Captain	Sidney Barracks, Nebr.	July 1, 1872, to June 11, 1873.
ollins, James H.	Capt. Ordnance.		Augusta Arsenal, Ga.	July 1, 1872, to June 30, 1873.
omeyn, Henry	1st lt. 5th Inf.	Captain	Post southeast Kansas, Fort Scott, Kans.	July 1, 1872, to April 20, 1873.
Do	do	do	Fort Gibson, Ind. Ter.	April 22 to June 30, 1873.
osencrantz, Fred	1st lt. 16th Inf.		Aberdeen, Miss	July 1, 1872, to April 30, 1873.
Do	do		Little Rock, Ark	May 6 to June 30, 1873.
oss, John M	1st lt. 21st Inf.		Fort Cape Disappointment, Wash.	Nov, 1 to Nov. 30, 1872.
oss, William J.	2d lt. 21st Inf.		Field, quartermaster's headquarters, Dep't Arizona.	July 1, 1872, to June 30, 1873.
ucker, L. H.	1st lt. R. Q. M. 9th Cav.		Fort Clark, Tex	Oct. 1 to Dec. 31, 1872.
Do	do		Ringgold Barracks, Tex	Feb. 14 to June 30, 1873.
ussell, E. K	1st lt. 1st Art.		Key West, Fla	Nov. 17, 1872, to Mar. 31, 1873.
utherford, R. G	2d lt. 12th Inf.	Captain	Fort Columbus, New York Harbor.	July 1, 1872, to June 30, 1873.
aye, George E.	2d lt. 5th Art.		Fort Independence, Mass.	July 1, 1872, to June 30, 1873.
ands, J. H	1st lt. 6th Cav.		Camp 6th Cavalry, near Fort Hays, Kans.	July 1 to July —, 1872.
anno, J. M. J	Capt. 7th Inf.		Fort Shaw, Mont	Aug. 1, 1872, to Mar. 11, 1873.
arson, H. B	1st lt. 2d. Inf		Huntsville, Ala	July 1, 1872, to June 30, 1873.

B.—*List of officers on duty as acting assistant quartermasters, &c.*—Continued.

Name.	Lineal rank and regiment.	Brevet rank.	Stations.	Time during year on dut A. A. Q. M.
Sawyer, J. E	2d lt. 5th Art		Fort Foote, Md	Nov. 1 to Dec. 13, 1872.
Schwatka, Fred	2d lt. 3d Cav		North Platte, Nebr	July 1, 1872, to June 30, 1
Scott, John	2d lt. 4th Inf		Crab Orchard, Ky	July 1 to Dec. 25, 1872.
Sellmer, Charles	2d lt. 3d Art	Captain	Fort Pulaski, Ga	July 1 to Nov. 20, 1872.
Do	do	do	David's Island, New York Harbor.	Nov. 27, 1872, to June 30,
Sharp, Thomas	1st lt. 1st Inf		Fort Mackinac, Mich	July 1, 1872, to June 30, 1
Shelby, Isaac O	2d lt. 16th Inf		Jackson, Miss	July 1, 1872, to June 30, 1
Shelton, E. H	2d lt. 1st Cav		Fort Lapwai, Idaho	July 1, 1872, to Mar. 7, 18
Sherman, H. P	2d lt. 15th Inf		Fort Cummings, N. Mex.	May 1 to June 30, 1873.
Sherman, James L	1st lt. 1st Art		Fort Niagara, N. Y	July 1 to October 31, 1872
Do	do		Fort Barrancas, Fla	Nov. 27, 1872, to June 30,
Sherwood, William L	1st lt. 21st Inf		Fort Vancouver, Wash	Jan. 1 to Jan. 31, 1873.
Shorkley, George	Capt. 15th Inf	Major	Fort McRae, N. Mex	July 1 to Sept. 30, 1872.
Silva, V. M. C	Capt. 21st Inf		Fort Vancouver, Wash	July 1 to Nov. 30, 1872.
Simpson, James F	2d lt. 3d Cav	Captain	Fort McPherson, Nebr	Nov. 1, 1872, to Mar. 30, 1
Simpson, John	1st lt. 4th Art		Presidio, San Francisco, Cal.	April 1 to June 30, 1873.
Slade, Charles E	2d lt. 15th Inf		Fort Stanton, N. Mex	July 1 to Oct. 31, 1872.
Smith, A. E	1st lt. 7th Cav	Captain	Elizabethtown, Ky	July 17, 1872, to Feb. 28, 1
Do	do	do	Detachment 7th Cav., in the field, Dak.	June 15 to June 30, 1873.
Smith, F. G	Capt. 4th Art	Major	Fort Cape Disappointment, Wash.	Dec. 15, 1872, to June 30, 1
Do	do	do	Fort Stevens, Oreg	Feb. 1 to June 30, 1873.
Smith, Lewis	1st lt. R. Q. M. 3d Art.		Charleston, S. C	July 1 to Oct. 31, 1872.
Do	do		Fort Hamilton, New York Harbor.	Nov. 7, 1872, to Feb. 1, 187
Do	do		Fort Wadsworth, New York Harbor.	May 31 to June 30, 1873.
Spencer, George K	2d lt. 19th Inf		Baton Rouge, La	May 1 to June 30, 1873.
Spurgin, W. F	1st lt. 21st Inf	Major	Fort Boise, Idaho	July 1, 1872, to June 30, 1
Stafford, J. S	1st lt. 20th Inf		Fort Ransom, Dak	July 1 to Sept. —, 1872.
Starr, Irwin M	1st lt. 9th Cav		Fort Duncan, Tex	July 1 to Sept. 30, 1872.
Steele, George W	1st lt. R. Q. M. 14th Inf.		Fort Laramie, Wyo. T	July 1 to Sept. 30, 1872.
Steelhammer, Charles	Capt. 15th Inf		Fort Cummings, N. Mex.	July 1 to July 31, 1872.
Stone, E. W	1st lt. 21st Inf	Lt. Col	Jacksonville, Oreg	Dec. 7, 1872, to Feb. 13, 18
Do	do	do	Yreka, Cal	Feb. 21 to June 30, 1873.
Storrow, S. A	Capt. and asst. surg. U. S. A.	Major	Fort Ontario, N. Y	Nov. 1 to Dec, 7, 1872.
Sullivan, T. C	Capt. C. S., U. S. A.	Lt. Col	Sioux City, Iowa	Feb. 15 to June 30, 1873.
Taylor, Frank	2d lt. 14th Inf		Fort Fetterman, Wyo.	July 1, 1872, to June 30, 1
Taylor, George McM	1st lt. 23d Inf		Camp Grant, Ariz	Nov. 23, 1872, to Apr. 18, 1
Taylor, S. W	2d lt. 4th Art		Rutherfordton, N. C	July 1 to Aug. 30, 1872.
Theller, E. R	1st lt. 21st Inf		Camp Hualpai, Ariz	July 1 to Sept. 30, 1872.
Thompson, E. F	Capt. 12th Inf		Camp Mojave, Ariz	Aug. 1 to Nov. 30, 1872.
Thompson, John C	1st lt. R. Q. M. 3d Cav.		Fort McPherson, Nebr	July 1 to Oct. 31, 1872, May 5 to June 30, 1873.
Thompson, R. E	2d lt. 6th Inf		Fort Stevenson, Dak	July 1 to August 30, 1872
Thorne, P. M	1st lt. R. Q. M. 22d Inf.		Fort Sully, Dak	July 1, 1872, to May 31, 18
Todd, John W	Major Ord		Detroit arsenal, Dearbornville, Mich.	July 1, 1872, to June 30, 1
Trout, John F	1st lt. 23d Inf		Camp Date Creek, Ariz	Sept. 15, 1872, to June 30, 1
Troxel, Thomas G	1st lt. R. Q. M. 17th Inf.		Grand River Agency, Dak.	Sept. 7 to Dec. 21, 1872.
Tyler, John	1st lt. R. Q. M. 1st Inf.	Major	Buffalo, N. Y., (depot quartermaster.)	July 1 to 16, 1872.
Do	do	do	Fort Porter, Buffalo, N. Y.	Aug. 1, 1872, to June 30, 1
Upham, F. K	1st lt. 1st Cav		Camp Apache, Ariz	July 1, 1872, to Apr. 30, 18
Vedder, S. C	2d lt. 19th Inf		Jackson Barracks, La	July 1, 1872, to May 1, 18
			The garrison temporarily at East Pascagoula, Miss., Camp Emory.	July 1 to Nov., 1872.
Vernon, Charles A	1st lt. 4th Cav		Escort to surveying party Texas Pacific Railroad.	July 1 to Dec. 31, 1872.
Vinal, William H	1st lt. 16th Inf		Monroe, La	June 5 to 30, 1873.
Viven, John L	1st lt. 12th Inf	Captain	Fort Yuma, Cal	Aug. 7 to Sept. 30, 1872.
Volkmar, William J	1st lt. 5th Cav		Camp Date Creek, Ariz	Aug. 31 to Sept. 15, 1872.
Vose, William P	1st lt. 2d Art	Captain	Point San José, Cal	July 1 to Nov. 16, 1872.
Do	do	do	Charlotte, N. C	March 1 to May 30, 1873.

B.—*List of officers on duty as acting assistant quartermasters, &c.*—Continued.

Name.	Lineal rank and regiment.	Brevet rank.	Stations.	Time during year on duty A. A. Q. M.
Vallace, Thomas S	1st lt. 3d Inf		Fort Wallace, Kans	July 1 to Nov. 30, 1872, and June 20 to 30, 1873.
Vard, F. K	2d lt. 1st Cav		Camp Harney, Oreg	Jan. 1 to June 30, 1873.
Vard, H. C	1st lt. 16th Inf	Captain	Saint Augustine, Fla	July 1 to Oct. 3, 1872, and Nov. 11 to Dec. 12, 1872.
Vard, Thomas	1st lt. 1st Art	...do	Fort Ontario, N. Y	Oct. 1 to Nov. 1, 1872.
Varrens, Charles H	1st lt. R. Q. M. 14th Inf.		Fort Laramie, Wyo	April 25 to June 30, 1873.
Veir, G. V	1st lt. 5th Art	Captain	Fort Preble, Me	April 1 to June 30, 1873.
Vells, Daniel T	1st lt. 8th Inf	Major	Battalion 8th and 9th Infantry, Yellowstone expedition.	June, 1873.
Venie, Thomas M	2d lt. 19th Inf		Colfax, La	April 22 to May —, 1873.
Do	....do		Alexandria, La	May — to June 30, 1873.
Vesendorff, Max	1st lt. 1st Cav		Fort Whipple, Ariz	July 1 to Oct. 1, 1872.
Vetmore, Oliver, jr	1st lt. 19th Inf		Det. 19th Infantry, La	Oct. 24 to Nov. 16, 1872.
Vetmore, William B.	2d lt. 6th Cav		Fort Wallace, Kans	Feb. 8 to June 20, 1873.
Vheeler, H. A	2d lt. 25th Inf		Fort Bliss, Tex	July 1 to Sept. 30, 1872.
Vhitall, S. R	2d lt. 16th Inf		Humboldt, Tex	July 1, 1872, to June 30, 1873.
Vhitehead, F. F	1st lt. 18th Inf.	Major	Yorkville, S. C	July 1, 1872, to June 30, 1873.
Vhittemore, J. M	Captain Ord	Major	Kennebec arsenal, Augusta, Me.	July 1, 1872, to June 30, 1873.
Viating, O. L	2d lt. 23d Inf		Fort Whipple, Ariz	Feb. 1 to June 30, 1873.
Villard, Wells	1st lt. 5th Art	Captain	Plattsburgh Barracks, N. Y.	Jan. 1 to June 30, 1873.
Villey, Thomas M	2d lt. 6th Inf		Fort McKean, Dak	July 1 to Nov. 19, 1872.
Do	....do		Nov. 19 changed to Fort Abraham Lincoln.	Nov. 19, 1872 to June 30, 1873
Villiams, William M.	2d lt. 19th Inf		Holly Springs, Miss	July 1 to Dec. 11, 1872.
Do	....do		A. A. Q. M. of troops in and around New Orleans, La.	Dec. 20, 1872, to Mar. 28, 1873.
Do	....do		Saint Martinsville, La.	June 1 to 30, 1873.
Vilson, D. B	1st lt. 25th Inf.		Fort Stockton, Tex	July 1 to 31, 1872.
Do	....do		Fort Gibson, Ind. T	Nov. 1, 1872, to Feb. 28, 1873.
Vinchester, H. F	1st lt. 6th Cav		Detachment 6th Cav., Wichita, Kans.	May 1 to June 30, 1873.
Vinters, William H	1st lt. 1st Cav		Camp Bidwell, Cal	July 1, 1872, to June 30, 1873
Vishart, Alexander	1st lt. 20th Inf.	Captain	Fort Cross, Dak., (Nov. 19, changed to Fort Seward.)	July 1 to Oct. 26, 1872.
Vitherill, Charles T	1st lt. 19th Inf.		Greenwood station, Shreveport, La.	May 15 to June 30, 1873.
Volfe, Nathaniel	2d lt. 2d Art		Charlotte, N. C	June 1 to June 30, 1873.
Volfe, William V	2d lt. 2d Inf		Eutaw, Ala	Oct. 23 to Nov. 1, 1872.
Do	......do		Lancaster, Ky	Jan. 5 to June 30, 1873.
Vood, O. E	1st lt. 5th Art		Fort Sullivan, Me	Aug. 16 to Oct. 31, 1872, and Feb. 10 to June 30, 1873.
Vood, P. G	1st lt. 12th Inf.		Camp Mojave, Ariz	Dec. 1, 1872, to June 30, 1873.
Voodbury, Thos. C	2d lt. 16th Inf		Monroe, La	May 27 to June 5, 1873.
Vorden, John L. jr	1st lt. 1st Inf		Madison Barracks, N. Y.	July 1 to Sept. 30, 1872.
Vright, E. M	2d lt. Ord		Rock Island Arsenal, Ill.	Jan. 1 to June 30, 1873.
Vygant, Hy	2d lt. 24th Inf		Brazos Santiago, Tex	Dec. 7, 1872, to April 30, 1873.
Young, R. H	2d lt. 4th Inf		Little Rock, Ark	Dec. 19, 1872, to Dec. 31, 1872.
Do	......do		Detachment 4th Inf., in the field, Wyo.	June 1 to June 30, 1873.
alinski, E. L	1st lt. 5th Art.		Fort Sullivan, Me	Nov. 1, 1872, to Feb. 10, 1873.

C.—*Stations and duties of officers of the Quartermaster's Department, July* 1, 1873.

QUARTERMASTER-GENERAL'S OFFICE.

Meigs, Bvt. Maj. Gen. Montgomery C., Q. M. Gen.; Bingham, Bvt. Brig. Gen. Judson ., Q. M.; Ludington, Bvt. Lieut. Col. Marshall I., Q. M.; McGonnigle, Bvt. Col. Anrew J., A. Q. M.

ENERAL DEPOTS ESTABLISHED BY GENERAL ORDERS NO. 32, HEADQUARTERS OF THE ARMY, APRIL 8, 1869.

New York.—Tyler, Bvt. Maj. Gen. Robert O., D. Q. M. Gen., in charge.

Philadelphia depot of the Quartermaster's Department, Pennsylvania.—Easton, Bvt. Maj.

Gen. Langdon C., A. Q. M. Gen., in charge; Rodgers, Capt. John F., military st keeper.

Washington, D. C.—Myers, Bvt. Brig. Gen. William, Q. M., in charge.

Jeffersonville depot of the Quartermaster's Department, Indiana.—Ekin, Bvt. Brig. G James A., D. Q. M. Gen., in charge; Lee, Bvt. Lieut. Col. James G. C., A. Q. M.; I rett, Capt. Addison, military store-keeper.

MILITARY DIVISION OF THE ATLANTIC.

Headquarters, New York City.—Tyler, Bvt. Maj. Gen. Robert O., D. Q. M. G C. Q. M.

Department of the East; headquarters, New York City.—Tyler, Bvt. Maj. Gen. Robert D. Q. M. Gen., C. Q. M.; Montgomery, Lieut. Col. Alexander, D. Q. M. Gen., Q. Boston, Mass.; Moore, Bvt. Brig. Gen. Treadwell, D. Q. M. Gen., Fort Adams, R. Sawtelle, Bvt. Brig. Gen. Charles G., Q. M., Philadelphia, Pa.; Eckerson, Bvt. I Theodore J., A. Q. M., Fort Monroe, Va.; Potter, Capt. Reuben M., military st keeper, on sick leave; Van Antwerp, Capt. Verplank, military store-keeper, Ba more, Md.

Department of the Lakes; headquarters, Detroit, Mich.—Saxton, Bvt. Brig. Gen. Ru D. Q. M. Gen., C. Q. M.; Weeks, Bvt. Lieut. Col. George H., A. Q. M., Buffalo, N. Y

MILITARY DIVISION OF THE SOUTH.

Headquarters, Louisville, Ky.—Ekin, Bvt. Brig. Gen. James A., D. Q. M. Gen., C. Q

Department of the South; headquarters, Louisville, Ky.—Ekin, Bvt. Brig. Gen. James D. Q. M. Gen., C. Q. M.; Hodges, Bvt. Lieut. Col. Henry C., Q. M., Atlanta, (Bradley, Capt. George W., A. Q. M., Charleston, S. C.; Barstow, Bvt. Lieut. Simon F., A. Q. M., Raleigh, N. C.

Department of the Gulf; headquarters, New Orleans, La.—Ransom, Lieut. Col. Hyatt D. Q. M. Gen., C. Q. M.

MILITARY DIVISION OF THE MISSOURI.

Headquarters, Chicago, Ill.—Rucker, Bvt. Maj. Gen. Daniel H., A. Q. M. G., C. Q. Gilliss, Capt. James, A. Q. M., Chicago, Ill.; Grimes, Bvt. Maj. Edward B., A. Q. Saint Louis, Mo.

Department of the Missouri; headquarters, Fort Leavenworth, Kans.—Van Vliet, I Maj. Gen. Stewart, A. Q. M. G., C. Q. M.; Myers, Bvt. Brig. Gen. Frederick, D. Q G., Santa Fé, N. Mex.; Chandler, Bvt. Col. John G., Q. M., Fort Leavenworth, Ka Reynolds, Bvt. Lieut. Col. Charles A., A. Q. M., Camp Supply, Ind. T.; Carling, I Lieut. Col. Elias B., A. Q. M., Sargent, Kans.; Kirk, Capt. Ezra B., A. Q. M., I Dodge, Kans.; Kimball, Capt. Amos S., A. Q. M., Fort Riley, Kans.; Smith, C Gilbert C., A. Q. M., Fort Union, N. Mex.; Livers, Capt. John, military store-kee Fort Leavenworth, Kans.

Department of the Platte; headquarters, Omaha, Nebr.—Perry, Bvt. Brig. Gen. Alexar J., Q. M., C. Q. M.; Moore, Bvt. Lieut. Col. James M., Q. M., Cheyenne, Wyo.; Hov Bvt. Maj. William T., A. Q. M., Camp Douglas, Utah; Belcher, Bvt. Maj. John H. Q. M., Omaha, Nebr.; Hull, Gustavus A., military store-keeper, Ogden, Utah.

Department of Dakota; headquarters, Saint Paul, Minn.—Card, Bvt. Brig. Gen. Be min C., Q. M., C. Q. M.; Dandy, Bvt. Brig. Gen. George B., A. Q. M., Fort Abraham I coln, Dak.; Baker, Capt. Edward D., A. Q. M., Yellowstone expedition; Scully, I Col. James W., A. Q. M., Fort Rice, Dak.; Foster, Bvt. Col. Charles W., A. Q. M., Ya ton, Dak.; Hunt, Bvt. Lieut. Col. Thomas B., A. Q. M., Fort Seward, Dak.; Fors Bvt. Maj. Lewis C., A. Q. M., Fort Ellis, Mont.; Blunt, Bvt. Col. Asa P., A. Q. M. sick leave; Lieber, Capt. Hamilton, military store-keeper, Fort Snelling, Minn.

Department of Texas; headquarters, San Antonio, Tex.—Holabird, Bvt. Brig. Gen. S uel B., D. Q. M. G., C. Q. M; Belger, Maj. James, Q. M., Fort Brown, Brownsville, T Robinson, Bvt. Maj. Augustus G., A. Q. M., Fort Sill, Ind. T.; Strang, Bvt. Lieut. Edward J., A. Q. M., Denison, Tex.; Constable, Capt. Nathaniel S., A. Q. M., Fort C cho, Tex.

MILITARY DIVISION OF THE PACIFIC.

Headquarters, San Francisco, Cal.—Allen, Bvt. Maj. Gen. Robert, A. Q. M. G., C. Q

Department of California; headquarters, San Francisco, Cal.—Eddy, Bvt. Col. Asher D. Q. M. G., C. Q. M.; Hughes, Capt. William B., A. Q. M., San Francisco, Cal.; Mar Capt. William P., military store-keeper, Yerba Buena Island, San Francisco, Cal.

Department of Arizona; headquarters, Prescott, Ariz.—Dana, Bvt. Brig. Gen. James J M., C. Q. M.; Rockwell, Bvt. Lieut. Col. Almon F., A. Q. M., Yuma Depot, Ariz.; rey, Capt. John V., A. Q. M., Tucson, Ariz.

Department of the Columbia; headquarters, Portland, Oreg.—Batchelder, Bvt. Col. Richard N., Q. M., C. Q. M.; Janes, Bvt. Lieut. Col. Henry W., A. Q. M., Fort Vancouver, Wash.; Hoyt, Capt. H., A. Q. M., Camp Warner, Oreg.

MISCELLANEOUS.

Ingalls, Bvt. Maj. Gen. Rufus, A. Q. M. G., New York City, under orders for special duty n Europe; Tompkins, Bvt. Brig. Gen. Charles H., D. Q. M. G., under suspension, San Francisco, Cal.; Potter, Bvt. Brig. Gen. Joseph H., Q. M., on sick leave; Enos, Bvt. Col. Herbert M., Q. M., on sick leave, Waukesha, Wis.; Alligood, Capt. Charles A., military store-keeper, on leave of absence.

II.—*Report of Maj. J. D. Bingham, Quartermaster, U. S. A.*

WAR DEPARTMENT, QUARTERMASTER-GENERAL'S OFFICE,
Washington, D. C., October 2, 1873.

SIR: I have the honor to submit a report of the finance branch of this Office for the fiscal year ending June 30, 1873.

The remittances on account of appropriations have been made upon estimates of disbursing quartermasters, approved by their commanding officers, and have been distributed as follows:

To the Military Division of the Atlantic.

Department of the East	$335,267 20	
Department of the Lakes	113,605 39	
Total Military Division of the Atlantic		$448,872 59

To the Military Division of the Missouri.

Department of the Missouri	$1,024,892 80	
Department of the Platte	1,135,670 93	
Department of Dakota	854,154 35	
Department of Texas	1,748,234 29	
District of New Mexico	451,308 25	
Depot at Chicago	499,756 46	
Depot at Saint Louis	516,116 71	
Total Military Division of the Missouri		6,230,133 79
To the Military Division of the Pacific		3,066,342 37

To the Military Division of the South.

Department of the South	$695,792 61	
Department of the Gulf	324,262 03	
Total Military Division of the South		1,020,054 64

To the principal depots.

New York	$349,760 33	
Washington	726,071 52	
Philadelphia	1,108,110 20	
Jeffersonville	180,353 79	
Total to principal depots		2,364,295 84
To officers in immediate charge of national cemeteries		137,004 85

To independent posts.

West Point, N. Y	$44,905 74	
Springfield Armory, Mass	2,431 68	
Fort Columbus, New York Harbor	826 50	
Cavalry depot, Saint Louis, Mo	3,800 93	

Newport Barracks, Ky	$7,551 37	
Columbus arsenal, Ohio	1,223 50	
Indianapolis arsenal, Ind	789 10	
Watertown arsenal, Mass	11,838 60	
Allegheny arsenal, Pa	2,557 00	
Watervliet arsenal, N. Y	10,261 25	
Frankford arsenal, Pa	200 00	
Pikesville arsenal, Md	317 11	
Augusta arsenal, Ga	2,337 30	
Kennebec arsenal, Me	805 93	
Benicia arsenal, Cal	4,148 73	
Detroit arsenal, Mich	892 46	
Rock Island arsenal, Ill	3,597 68	
Total to independent posts		$98,48
Total amount remitted		13,365,18

Remittances from the appropriation for the fiscal year ending J
30, 1873, have been made as follows, viz:

Regular supplies.

Fuel	$1,128,958 68	
Forage	3,197,430 06	
Straw	84,801 60	
Stationery	94,894 89	
Stoves	88,615 23	
Total regular supplies		$4,594,70
Incidental expenses		1,3003 '8
Horses, cavalry and artillery		292, 7

Barracks and quarters.

Rent of quarters for officers	$323,092 10	
Rent of store-houses, offices, commutation of quarters for enlisted men	312,318 03	
Building-material for repairs	550,161 64	
New buildings authorized	281,356 26	
Total barracks and quarters		1,466,92
Army transportation		4,325,60
Clothing and equipage		858,41
National cemeteries		250,72
Hospitals		84,59
Stoves		10,00
Preservation of clothing and equipage from moth and mildew		150,00
Mojave claims, (special appropriation)		14,21
Headstones		16,13
Expenses of sales		84
Total amount remitted		13,365,18

The duties performed in this branch have embraced action on
mates of funds; the preparation of requests for remittances to disb
ing officers; action on weekly statement of balances of funds in
hands of disbursing officers, and action on certificates of deposit.

Very respectfully, your obedient servant,

J. D. BINGHAM,

Bvt. Brig. Gen. and Quartermaster, U. S.

The QUARTERMASTER-GENERAL.

wport Barracks, Ky........
lumbus arsenal, Ohio
dianapolis arsenal
atertown ars
legheny a
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ankf

Appropriations for the fiscal year ending June 30, 1873		$12,114,219 00
Appropriations for deficiencies, act of March 3, 1873		1,570,000 00
So much of the amount appropriated by the act of March 3, 1873, for preservation of clothing and equipage from moth and mildew during the year ending June 30, 1874, as was used during the year ending June 30, 1873, the appropriating act rendering it available in that year		150,000 00
Amount placed to the credit of appropriations during the year by deposits of funds for redistribution, and of amounts derived principally from sales to officers of public property purchased during the year ending June 30, 1873		16,114 56
Amount expended for other departments and refunded by them during the fiscal year		25
Total		13,850,333 81
Remitted to officers for disbursement on requests of the Quartermaster-General	$13,365,188 96	
Requisitions on settlements made at the Treasury of claims and accounts	22,032 52	
Transferred to the Ordnance Department for the manufacture of knapsacks, haversacks, canteens, and great-coat straps	41,953 33	
		13,429,174 81
Balance in Treasury June 30, 1873		421,159 00

The accounts and vouchers which have been examined in this Office since the last annual report show disbursements as follows:

On account of appropriations for years prior to the fiscal year ending June 30, 1872	$1,843,605 13
For the fiscal year ending June 30, 1872	8,041,800 03
For the fiscal year ending June 30, 1873	5,638,632 94
Total	15,524,038 10

Appropriations are charged with these disbursements as follows:

1.—*Appropriations for the Quartermaster's Department.*

	Prior to July 1, 1871.	Fiscal year 1871-'72.	Fiscal year 1872-'73	Total.
Regular supplies	$376,804 66	$2,940,066 23	$2,182,432 29	$5,499,303 18
Incidental expenses	165,975 38	903,317 10	705,951 31	1,775,243 79
Purchase of cavalry and artillery horses	375 00	181,829 23	47,391 00	229,595 23
Barracks and quarters	295,676 75	1,081,257 06	793,619 19	2,170,553 00
Army transportation	959,684 96	2,213,396 60	1,347,823 06	4,520,904 62
Mileage—transportation of officers' baggage	486 39			486 39
Purchase—manufacture and preservation of clothing, camp and garrison equipage	10,499 36	491,445 92	413,158 29	915,103 57
Purchase of stoves	18,145 31	16,593 65	10,527 55	45,266 51
National cemeteries	8,900 32	156,456 29	62,921 62	228,278 23
Hospitals			8,294 93	8,294 93
Headstones			1,814 00	1,814 00
Total	1,836,548 13	7,984,362 08	5,573,863 24	15,394,773 45

2.—*Special appropriations and expenditures for other Departments.*

	Prior to July 1, 1871.	Fiscal year 1871-'72.	Fiscal year 1872-'73.	Total.
Fire-proof buildings		$51,584 12	$64,269 70	$115,853 82
Army contingencies	$142 50	719 82	500 00	1,362 32
Pay Department	1,555 26	978 07		2,533 33
Subsistence Department	2 25	2 25		4 50
Medical Department	782 43	1,900 72		2,683 15
Ordnance Department		56 00		56 00
Indian Department	4,574 56	2,112 65		6,687 21
Soldiers' Home		84 32		84 32
Total	7,057 00	57,437 95	64,769 70	129,264 65

Appropriations for the fiscal year ending June 30, 1873.

Appropriations for fiscal year		$12,114,219 00
Appropriations for deficiencies, act of March 3, 1873		1,570,000 00
So much of the $200,000 appropriated by the act of March 3, 1873, for preservation of clothing and equipage from moth and mildew during the year ending June 30, 1874, as was used during the year ending June 30, 1873, the appropriating act rendering it available in that year		150,000 00
Amount placed to the credit of appropriations during the year by deposits of funds for redistribution, and of amounts derived principally from sales to officers of public property purchased during the year ending June 30, 1873		16,114 56
Amount expended for other departments and refunded by them during the fiscal year		25
Total		13,850,333 81
Remitted to officers for disbursement on requests of the Quartermaster-General	$13,365,188 96	
Requisitions on settlements made at the Treasury of claims and accounts	22,032 52	
Transferred to the Ordnance Department for the manufacture of knapsacks, haversacks, canteens, and great-coat straps	41,953 33	
		13,429,174 81
Balance in Treasury June 30, 1873		421,159 00

The accounts and vouchers which have been examined in this Office since the last annual report show disbursements as follows:

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Purchase of cavalry and artillery horses	375 00	181,829 23	47,391 00	229,595 23
Barracks and quarters	295,676 75	1,081,257 06	793,619 19	2,170,553 00
Army transportation	959,684 96	2,213,396 60	1,347,823 06	4,520,904 62
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Hospitals			8,224 93	8,224 93
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Total	1,836,548 13	7,984,362 08	5,573,863 24	15,394,773 45

2.—*Special appropriations and expenditures for other Departments.*

	Prior to July 1, 1871.	Fiscal year 1871-'72.	Fiscal year 1872-'73.	Total.
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Army contingencies	$142 50	719 82	500 00	1,362 32
Pay Department	1,555 26	978 07		2,533 33
Subsistence Department	2 25	2 25		4 50
Medical Department	782 43	1,900 72		2,683 15
Ordnance Department		56 00		56 00
Indian Department	4,574 56	2,112 65		6,687 21
Soldiers' Home		84 32		84 32
Total	7,057 00	57,437 95	64,769 70	129,264 65

can be made on the duplicate in case of loss of the original, and a d payment for the same service might pass the examination of this b without detection.

It is suggested that officers who issue bills of lading be requir number them, and to enter on their "report of persons and ar hired" the number of each bill issued; name of carrier; destina name of consignee; character and weight of articles, or any si data by which the bills, when received here, can be identified.

Under section 2 of the act of February 12, 1868, a disbursing o cannot use money appropriated for one purpose for any other. under section 5 of the act of July 12, 1870, the appropriation specifically for the service of any fiscal year can only be applied t payment of expenses properly incurred during that year. These laws, together with the custom that has grown up in this office creasing the number of heads of appropriation, are now the cau much embarrassment to the administration of the affairs of the Qu master's Department.

The following table shows the balances of appropriations und by the Quartermaster's Department, July 1, 1873. They are emb under fifteen different heads, and the accounts with them are ke five sets of books. Each year adds another set of books in another account is opened generally with the same heads of appr tion as in the previous year. In time the system will confus embarrass the records and business of this office:

Balances of appropriations undrawn by the Quartermaster's Department, July 1, 1

•	Prior to July 1, 1870.	1870–'71.	1871–'72.	1872–'73.	187
Regular supplies	$363, 400 86	$82, 068 05	$89, 263 98	$1, 688 55	$4, 50
Incidental expenses	154, 582 71	63, 330 62	128, 223 05	3, 813 40	1, 30
Purchase of horses	51, 773 50	13, 231 29	22, 109 73	7, 692 96	35
Barracks, quarters, &c.	125, 124 02	45, 075 91	79, 902 32	32, 952 33	1, 70
Transportation of the Army	801, 844 32	8, 597 38	684, 684 14	156, 541 92	4, 49
Transportation of officers' baggage	29, 882 66	....	....	....	.....
Clothing of the Army	76, 312 66	47, 180 55	26, 498 90	4 53	1, 04
Stores	34, 493 27	21 60	40 00	....	.....
National cemeteries	....	....	....	....	27
Clocks for permanent posts	522 00	....	....	....	.....
Hospitals	....	....	....	15, 473 49	10
Expenses of sales	....	....	....	9, 157 57	.....
Headstones	....	....	....	183, 866 25	1, 00
Monument at Salisbury, N. C	....	....	....	10, 000 00	.....
Preservation of clothing	....	....	....	....	5
Total	1, 637, 936 00	259, 505 40	1, 030, 712 12	421, 191 00	14, 81

There are now nine appropriations which are disbursed by the termaster's Department, viz: regular supplies; incidental expe cavalry and artillery horses; barracks and quarters; transportati the Army; clothing and equipage; erection and repair of hosp national cemeteries, and headstones for soldiers' graves.

Some quartermasters draw money from all of these appropria nearly all draw from four of them, to wit: for regular supplies, dental expenses, barracks and quarters, and transportation of the

Each officer doing duty in the Quartermaster's Department is req to make, monthly, an estimate of the funds required during the en month, setting forth the exact number of men and animals for which to provide, the articles he requires, with the cost of each, and the pe and articles he must employ, with the rate of pay, and the total amo money he requiries from each appropriation. When the money is rec

must expend it for the purposes for which he asked it, and for no
her. He cannot, even temporarily, use money appropriated for trans-
rtation for paying for fuel. This often causes great embarrassment,
the exigencies of the service are constantly changing. An officer
io makes an estimate of funds required for an ensuing month finds,
ien the money is received, that his wants are entirely different from
iat he expected they would be when he made the estimate. He asked,
rhaps, for money to erect temporary shelter for troops, and has re-
ived it; but instead of going into quarters the troops are on the march,
d instead of a sheltering fund he wants transportation money, of
iich he has none on hand. As he cannot use the sheltering funds on
nd, great embarrassment ensues.

The quartermaster of a post garrisoned by infantry, where there are
om four to six public animals, asks and receives funds to supply their
ants. Suddenly and unexpectedly the garrison is increased by the ar-
val of cavalry. Forage, horse-shoes, horse medicines, &c., are wanted
once. The quartermaster has no funds to buy them with, and does
t know whether any such funds are in the Treasury; therefore he can-
t buy for cash and dare not buy on credit, as the law forbids any ex-
nditure beyond the appropriation.

As the fiscal year draws to a close, and some of the appropriations
e entirely drawn out of the Treasury, some of the officers of the
iartermaster's Department will have expended all of the funds in
eir hands belonging to such appropriations, while others will have a
rplus; this necessitates transfers from one officer to another, often far
art and with infrequent means of communication. As the year draws
ill nearer to a close, the number of such transfers increases, until all
e accounts are paid or the appropriations are exhausted.

Great delays in the payment of accounts frequently occur under the
esent system, which tend to increase the expenses of the department
d oppress the creditors of the Government.

The same not only applies to a portion of the Army, but to it as a
iole, as is shown by the condition of the appropriations for the last
o fiscal years, during which the present system of accounts has been
operation. During the fiscal year 1871–'72, the expenses for barracks
d quarters and incidental expenses were greater than anticipated,
d notwithstanding the most earnest efforts to prevent it, those appro-
iations were exceeded. Last year the expenses on account of cloth-
g, stoves, barracks and quarters, and incidental expenses were con-
lerably greater than was anticipated when the estimate was made,
d as a consequence the Department had no funds for supplying suita-
e clothing to the Army toward the close of the year, or for the pur-
ase of stoves.

The present system of making estimates upon which the appropria-
ons are based is one of long standing in the Quartermaster's Depart-
ent; it is one that it is not thought best to change, as it is doubtless
ell for a department to send to Congress as detailed an estimate as
ssible.

In 1836 there were four appropriations for the Quartermaster's Depart-
ent, viz, for clothing, various expenses, allowance to officers for trans-
rtation of their baggage, and for the transportation of troops. In
37 the number of appropriations was increased by Congress to six,
z, clothing, regular supplies, barracks and quarters, transportation of
ops, and incidental expenses. In 1848 the number of appropriations
is increased by Congress to seven, a separate item being made for

cavalry and artillery horses, which had previously been included i appropriation for incidental expenses.

But never, until July, 1870, were officers required to keep sep accounts with each appropriation. Officers in the field estimat such amount of funds as they supposed they would want; the m was drawn from the Treasury and sent to them in a lump; and used it without regard to—in fact did not know—the appropriation which it was drawn. As long as the money held out they paid all p expenses. When their accounts were rendered to the Quarterm General and the accounting-officers of the Treasury Department were analyzed, and the amounts chargeable against the several a priations noted on the vouchers, and entered on the books at the T ury. It is true that under such a system of disbursement some a priations might be overdrawn; but as the President then had po transfer from one appropriation to another in the same departmen deficiency in one was made good by the surplus of another, so th law was violated, the wants of the service were well supplied, an total expenditure did not exceed the amount appropriated.

The power of the President to transfer from one appropriation other, conferred by the act of March 3, 1809, was taken away by th of February 12, 1868, and the Quartermaster's Department cannot r to the old system of disbursing without some authority of law.

Some relief from the present condition of affairs is demanded b necessities of the service. The Department is now bound to dis its money in strict conformity to the appropriations based on esti made ten months before the year during which the money is to be exp begins. If the Army were a stationary force its expenses cou calculated beforehand in detail with a reasonable degree of certa but such is not the case.

The necessity of keeping, whenever possible, in the hands of eac bursing-officer, or subject to his draft, a considerable balance of appropriation which he is likely to use, instead of a general ba applicable to all, increases the amount of money lying idle in the d tories, and subject to draft by disbursing-officers, and thus increase remittances to them and lowers the balances in the Treasury ava for remittances to the posts where actually needed.

The embarrassments indicated may be removed in two ways. by a slight change in making out the annual estimate of appropri required for the Quartermaster's Department. Instead of appropr for each head, as at present, arrange them as follows:

For general and incidental expenses of the Quartermaster's Department, to wit :	Dates of acts, resolutions, &c., authorizing or providing for the expenditure.	Reference to Statutes at Large, (Little, Brown & Co.'s edition.) Vol.	p.	sec.	Estimated amount which will be required for each detailed object of expenditure.	Total amount to be appropriated under each head of appropriation.	Amount appropriated for the current fiscal year ending June 30, 1874.
For purchase of stoves for heating and cooking, of fuel for officers, enlisted men, guards, hospitals, store-houses, and offices; of forage in kind for the horses, mules, and oxen of the Quartermaster's Department at the several posts and stations, and with the armies in the field; for the horses of the several regiments of cavalry, the batteries of artillery, and such companies of infantry and scouts as may be mounted; and for the authorized number of officers' horses, including bedding for the animals; of straw for soldiers' bedding; and of stationery, including blank books for the Quartermaster's Department, certificates for discharged soldiers, blank forms for the Pay and Quartermaster's Departments, and for printing of division and department orders and reports.	Mar. 28, 1812 May 22, 1812 July 17, 1862 Jan. 31, 1868 Revised Army Regulations, 1863, p. 159.	2 2 12 15	696 743 594 246	3 3 2 8	$5,000,000 00	....	....
For postage and telegrams or dispatches; extra pay to soldiers employed, under the direction of the Quartermaster's Department, in the erection of barracks, quarters, store-houses, and hospitals, in the construction of roads, and other constant labor, for periods of not less than ten days, under the act of March 2, 1819, and August 4, 1854, including those employed as clerks at division and department headquarters; expenses of expresses to and from the frontier posts and armies in the field, of escorts to paymasters and other disbursing officers, and to trains where military escorts cannot be furnished; expenses of the interment of officers killed in action, or who die when on duty in the field, or at posts on the frontiers, or at posts and other places, when ordered by the Secretary of War, and of non-commissioned officers and soldiers; authorized office furniture; hire of laborers in the Quartermaster's Department, including the hire of interpreters, spies, and guides for the Army; compensation of clerks to officers of the Quartermaster's Department; compensation of forage and wagon masters, authorized by the act of July 5, 1838; for the apprehension of deserters and the expense incident to their pursuit; and for the following expenditures required for the several regiments of cavalry, the batteries of light artillery, and such companies of infantry and scouts as may be mounted, namely: the purchase of traveling forges, blacksmiths' and shoeing tools, horse and mule shoes and nails, iron and steel for shoeing, hire of veterinary surgeons, medicines for horses and mules, picket-ropes, and for shoeing the horses of the corps named; also, generally, the proper and authorized expenses for the movement and operations of an army not expressly assigned to any other department.	Mar. 2, 1819 Aug. 4, 1854 Mar. 16, 1802 July 13, 1866 Revised Army Regulations, p. 159, par. 1065. Mar. 3, 1813 July 5, 1838 Mar. 28, 1812	3 10 2 14 2 5 2	488 576 132 93 820 257 696	1 6 21 7 8 10 3	1,300,000 00	....	....
For purchase of horses for the cavalry and artillery, and for Indian scouts, and for such infantry as may be mounted.	Army Regulations, p. 159, par. 1064.	....			500,000 00	....	....

Quartermaster's Department—Continued.

For general and incidental expenses of the Quartermaster's Department, to wit:	Dates of acts, resolutions, &c., authorizing or providing for the expenditure.	Reference to Statutes at Large, (Little, Brown & Co.'s edition.			Estimated amount which will be required for each detailed object of expenditure.	Total amount to be appropriated under each head of appropriation.	Amount appropriated for the current fiscal year ending June 30, 1874.
		Vol.	*p.*	*sec.*			
For transportation of the Army, including baggage of the troops, when moving either by land or water; of clothing, camp and garrison equipage from the depots of Philadelphia and Jeffersonville to the several posts and army depots, and from those depots to the troops in the field; of horse-equipments and of subsistence stores from the places of purchase, and from the places of delivery under contract, to such places as the circumstances of the service may require them to be sent; of ordnance, ordnance stores, and small-arms from the founderies and armories to the arsenals, fortifications, frontier posts, and army depots; freights, wharfage, tolls, and ferriages; the purchase and hire of horses, mules, oxen, and harness, and the purchase and repair of wagons, carts, and drays, and of ships and other sea-going vessels; and boats required for the transportation of supplies and for garrison purposes; for drayage and cartage at the several posts, hire of teamsters, transportation of funds for the pay and other disbursing departments; the expense of sailing public transports on the various rivers, the Gulf of Mexico, and the Atlantic and Pacific; for procuring water at such posts as, from their situation, require it to be brought from a distance; and for clearing roads and removing obstructions from roads, harbors, and rivers to the extent which may be required for the actual operations of the troops in the field.	Mar. 3, 1813 Jan. 31, 1862 Revised Army Regulations, p. 159, par. 1064; and p. 163, par. 1096.	2 12	817 334	5 4	$4,500,000 00		
For hire of quarters for officers on military duty, hire of quarters for troops, of store-houses for the safe-keeping of military stores, offices, and of grounds for camps and for summer cantonments, and for temporary frontier stations; for the construction of temporary huts and stables, and for repairing public buildings at established posts.	Revised Army Regulations, p. 159, par. 1066. Act of May 18, 1872.	17	260	1	2,000,000 00		
For construction and repair of hospitals, as reported by the Surgeon-General of the Army..	Appropriated.	17	260	1	150,000 00	$13,450,000 00	$12,450,000 00
For clothing and equipage:							
For purchase and manufacture of clothing, camp and garrison equipage, and for preserving and repacking stock of clothing, camp and garrison equipage; and materials on hand at the Philadelphia and other depots of the Quartermaster's Department.	May 18, 1826. Revised Army Regulations, p. 159, par. 1064.	4	173	1	1,700,000 00		
For preservation of clothing and equipage from moth and mildew, by the process of G. E. Cowles & Co., heretofore adopted and now in use.	Act of Mar. 3, 1872, chap. 229, p. 546.	....	....	....	100,000 00	1,800,000 00	1,523,508 81
For establishing and maintaining national military cemeteries..............................	Feb. 22, 1867	14	399	16	....	275,000 00	275,000 00
Total..............................		....	....	....	....	15,525,000 00	14,248,508 81

This will reduce the number of heads of appropriation to three, while
ie estimate, in all its details, is made precisely as heretofore.

Another method is by the passage of a law relieving disbursing officers
f the Quartermaster's Department from the necessity of keeping sep-
rate and distinct accounts with each branch of the appropriation for
ie annual service of the Quartermaster's Department.

The change in the estimate may be made, I think, without recourse to
iw, as the system grew up in this Office without the requirement of
w.

Very respectfully, your obedient servant,

J. D. BINGHAM,
Bvt. Brig. Gen. and Q. M., U. S. A.

The QUARTERMASTER-GENERAL OF THE ARMY.

IV.—*Report of Maj. J. D. Bingham, quartermaster, U. S. A.*

WAR DEPARTMENT,
QUARTERMASTER-GENERAL'S OFFICE,
Washington, D. C., October 2, 1873.

GENERAL: I have the honor to submit the annual report of the cloth-
ig branch of this Office for the fiscal year ending June 30, 1873.

The work connected with this branch of the Office has been as follows:
upplying clothing and camp and garrison equipage to the Army of the
nited States; the manufacture and purchase of such articles as were
ot on hand and required; the preservation of the large supplies of
oolen garments, and materials for the manufacture of clothing, in
ore at the principal clothing depots; the sale of such articles of cloth-
ig and equipage as had become unserviceable and damaged being
art of the large stock left on hand at the close of the late war; the
xamination and settlement of officers' clothing accounts, and examina-
on of claims for clothing furnished to the United States forces during
ie war of the rebellion, not heretofore acted upon or presented to this
ffice.

The President of the United States having approved the recommen-
ations of a board of officers convened by order of the Secretary of War
adopt a new uniform for the Army of the United States, this Office,
i obedience to instructions from the War Department, made prepara-
ons to manufacture and purchase a complete outfit of the new uniform
r the 30,000 enlisted men comprising the Army, with a view of having
ready for distribution on the 1st of December last. The appropria-
on not being sufficient for the purpose, the issue was postponed until
ie appropriation of this fiscal year should become available. In the
ean time preparations were made for commencing the distribution of
ie clothing in July last, and nearly all the troops have now been sup-
ied with the new uniform.

The regulations for the new uniform require that all troops shall wear
ie mounted overcoat. The stock of great-coats mounted being limited,
ie obtaining of a supply for foot-troops became necessary.

To prevent a loss to the Government, and with a view to utilizing the
rge supply of great-coats (foot) on hand, the Quartermaster-General
commended the issue of these overcoats after attaching to them
ounted capes. The Secretary of War having approved the recom-
endation, these great-coats have since been issued with double capes,

and the result thus far shows that this arrangement has been of ben to the Government, as well as to the enlisted men of the Army.

The iron bunks adopted for use of the Army have been supplied nearly all the military posts. They appear to give general satisfact Thirty-four officers have reported upon them favorably, and nine u vorably, the latter principally from a misunderstanding of the purp of the bunk. Complaint having been made that the pine slats split easily, instructions have been given to manufacture them of hard wo such as oak or ash.

The brass-screwed boots and bootees heretofore issued in limi quantities are now being purchased and distributed to the whole Ar Sixty-two officers of the Army have, in their annual reports for the fi year, reported on them favorably; one thinks sewed shoes are better the sand; and another that the soles should be of hemlock-tanned s leather.

The stock of blankets, stockings, and boots and shoes left on han the close of the war has become exhausted, or unserviceable from l storage. In procuring new supplies of blankets and stockings by c tract, much difficulty has been experienced in obtaining articles of g quality, and equal to the standard.

The stock of dark-blue cloth and light-blue kersey will be so ne exhausted this year that it will be necessary to purchase a supply n year.

In view of the difficulty of procuring articles of standard qualit recommend that a few officers of the Quartermaster's Department be signed to duty at the Philadelphia clothing depot, where most of large contracts for clothing are made, in order that they may qua themselves for the duty of inspecting the manufacture of such fab and articles as are contracted for at that depot. They should be nished with necessary facilities; and when large contracts, such as blankets, stockings, cloth, tents, &c., are given out, they should be signed to the duty of watching the process of manufacture, in orde secure compliance with contracts, and insure the furnishing of arti equal to the standard.

After the officers first detailed for this duty become proficient, t should be replaced by others. By continuing this system the Dep ment will always be supplied with officers capable of superintending manufacture of the most important articles of the uniform.

I desire to call the attention of the Quartermaster-General to following extracts from the annual report of Capt. John F. Rodg military store-keeper, United States Army, at the Philadelphia de of the Quartermaster's Department, for the fiscal year ending June 1873:

> The new uniform is in process of manufacture, and will shortly be issued. I in quality, appearance, and workmanship, vastly superior to the old. None but cloth has been used, and the prices paid for making it have been sufficient to in good work. The patterns are all better than those formerly used, and if the A complains, the Quartermaster's Department need feel no remorse: The boots bootees are unexceptionable; the iron bunks excellent. The foot dress-caps are mirable. I think, however, that the helmet needs some alterations to make it wh desired. The shell, *i. e.*, the felt, is almost too light; the disk on the crown shoul broader to bear the heavy strain of the spear, plume, and socket, and the bin should be heavier and broader. It is the most sightly head-gear I have ever seen, needs, in my opinion, the above.
>
> The uniform dress-coats are well made, of good shape, and will, I think, give s faction. One objection has already arisen, and will doubtless continue to be m The "facings" are of bright cloth, beautiful at first, but likely to lose its fresh upon exposure. As some reports upon this subject are probable, I deem it prope say that I have for several months been trying experiments with these cloths.

I have found *none*, either foreign or domestic, that are not fugitive in color. They ll fade. The facing-cloth used for the present uniform is the best I have tried. It vas purchased before I came to Philadelphia, and my experiments are disinterestedly mpartial.

A new overcoat, or rather an adaptation of the old, has just been introduced in the rmy from a design of the Quartermaster-General. It is an admirable garment, and hould, and doubtless will, give great satisfaction to the Army.

Efforts have been made, and are still making, to raise the standard of all clothing nd equipage to what it should be, and I think with success. I believe the issue will ow compare favorably with those of former years, even to that "good old time" beore the war.

The stock of woolen materials at this depot, and at Jeffersonville also, has been reated by the "Cowles & Co. process." The result is yet to be seen. I trust that it vill prove of great service.

The $\frac{6}{4}$ dark-blue cloth will, in all probability, be exhausted within the coming year. most respectfully recommend that sufficient time be taken to secure a good quality. t is the most expensive and requires more care in purchasing and inspecting than any ther.

The $\frac{6}{4}$ sky-blue kersey will also be exhausted within a year in all probability. I do ot think it will be necessary to purchase any of this width until the $\frac{3}{4}$ sky-blue kersey is exhausted Of the latter a sufficient quantity remains to make all the trousers nd capes to overcoats that will be required during the present year. Of $\frac{6}{4}$ and $\frac{3}{4}$ darklue flannel enough remains to last at least two years.

All of the above has been carefully overhauled; the unserviceable laid aside for conlemnation, and the balance carefully baled.

I again most respectfully call your attention to the careless estimates made by reuiring officers. Requisitions for clothing are made apparently at hap-hazard, and ften the sizes of boots, hats, caps, &c., are glaringly improper and incorrect.

One officer wanted, in an estimate for 499 pairs of bootees, $\frac{37}{10}$, $\frac{41}{11}$, $\frac{29}{12}$, $\frac{8}{13}$, $\frac{7}{14}$, and this for vhite troops. In 600 forage-caps he asks for $\frac{196}{1}$, $\frac{145}{2}$, and so through his estimate. This s but one of many, and causes the issuing officer great trouble and perplexity. A refrence to the schedule of sizes will show how they should be issued. It also gives the urchasing officer great trouble, for it is impossible to obtain correct sizes to fit such stimates.

I respectfully recommend that a moderate proportion of coats, blouses, and overcoats e sent unmade. I believe it would save money to the Treasury and to the soldier, nd prove satisfactory to all parties concerned.

Officers often expect to find clothing made similar to "custom-work," and not finding it, at once commence a crusade against the Quartermaster's Department, and paricularly against the clothing branch.

The packing of clothing has been greatly improved within the last year. Dressoats, boots, bootees, helmets, dress-caps, and forage-caps are boxed. Trousers, louses, stable-frocks, shirts, bed-sacks, &c., are baled. The baling is much improved. better quality of canvas is used, and it has two coats of paint given it before the ale is made. Such bales will bear rough carriage well, and, if exposed to rain or oisture, will keep their contents dry.

The expenditures on account of the moth and mildew proof process of eo. A. Cowles & Co. during the fiscal year have been $350,000. This ncludes $200,000 appropriated for the current fiscal year, but made vailable for expenditure during last fiscal year. To prepare such artiles of woolen and cotton fabrics on hand as have not yet been submited to the process, an additional sum of $100,000 has been asked in the stimate for the coming fiscal year.

The appropriation for clothing and equipage for the past fiscal year vas $900,000; $369.93 were deposited by officers to the credit of the appropriation, making a total of $900,369.93.

The expenditures on account of clothing and equipage during the ame period were $858,412.07. The sum of $41,953.33 was transferred n the books of the Treasury to the appropriation for ordnance and ordance stores, being the amount appropriated for the purchase of knapacks and haversacks, which are now furnished to the Army by the)rdnance Department.

During the past fiscal year $456,986.82 were realized from sales of lothing and equipage, including $18,832.56 from sales of clothing, &c., o officers of the Army for their personal use.

To supply the Army with the necessary clothing and equipage dur the coming fiscal year, it is estimated that an appropriation of $2,000, will be required. The large quantities of clothing rendered surplus the adoption of the new uniform will be sold under the law of Marcl 1873, at public auction. The clothing on hand at the Philadelphia pot will be disposed of at auction on the 2d of October, (to-day,) and the obsolete clothing in possession of officers at the various posts, g risons, depots, &c., in the United States, will be disposed of in like m ner as required by law.

The gross proceeds of these sales will be covered into the Treasury the United States.

The large quantity of unserviceable clothing in store at the depot Jeffersonville, Ind., will, under the orders of the Secretary of War, kept in store till next year, in order to avoid throwing on the market this time more property than can be disposed of with advantage to Government.

It is expected that more money will be realized from these sales th will be required to supply the Army with the necessary clothing dur the coming year.

Measures have been taken to embrace in the next annual repor complete statement of the number of articles sold under the law refer to, as well as the amounts obtained and turned into the Treasury.

Congress having by the passage of the act of January 21, 1873, gran to each of the inmates of the National Home for Disabled Volunte one complete suit of clothing, the Secretary of War, at the request the Hon. B. F. Butler, president of the board of managers, authori the issue to the Home, in lieu of clothing, of an equivalent from the stock of pegged bootees on hand. These bootees had, by long stora become unfit for issue to troops in active service. The issue to Home amounted to 151,249 pairs.

Twelve claims for clothing and equipage, amounting to $19,678 were received during the past fiscal year.

Six claims were referred to the Third Auditor of the Treasury w recommendation for settlement, amounting to $5,792.10.

Three claims, amounting to $8,209.86, were sent to the Third Audi of the Treasury with recommendation that they be disallowed.

The examination of the clothing accounts of officers is being made fast as they are received. During the fiscal year ending June 30, 18 3,647 returns were examined and transmitted to the Treasury Depa ment for settlement, leaving but 376 awaiting examination in this Off

Twelve clerks, two copyists, and two laborers have been employ during the fiscal year, in this branch of the Office.

The following-described statements accompany this report:

1. Statement showing, as far as can be ascertained from the reco of this Office, the quantity of clothing, camp and garrison equipage, a clothing materials in the hands of officers of the Army, June 30, 18 the quantity of clothing, camp and garrison equipage, purchased, m ufactured, sold, lost, and issued to the Army of the United States dur the fiscal year ending June 30, 1873, and the quantity remaining hand for the supply of the Army at that date.

2. Statement of amounts received from the sale of surplus serviceal unserviceable, damaged, and irregular articles of clothing, &c., sold the principal clothing depots; also of the amounts derived from sale officers during the fiscal year ending June 30, 1873.

3. Statement showing expenditures on account of clothing, camp a garrison equipage, during the fiscal year ending June 30, 1873.

4. Statement of the amounts received and expended by the Quartermaster's Department on account of clothing and equipage during the fiscal year ending June 30, 1873.

5. Statement showing number of claims received and acted upon during the fiscal year ending June 30, 1873, on account of clothing, camp and garrison equipage.

6. Statement of returns of clothing, camp and garrison equipage received, examined, and transmitted to the Treasury Department, and of letters received and written, during the fiscal year ending June 30, 1873.

Very respectfully, your obedient servant,

J. D. BINGHAM,
Quartermaster, U. S. A., Bvt. Brig. Gen.

Brig. Gen. M. C. MEIGS,
Quartermaster-General, U. S. A.

A.—*Statement showing, as far as can be ascertained from the records of this Office, the quantity of clothing, camp and garrison equipage, and clothing material, in the hands of officers of the Army June* 30, 1872, *the quantity of clothing and equipage purchased, manufactured, sold, lost, and issued to the Army of the United States during the fiscal year ending June* 30, 1873, *and the quantity remaining on hand, for the supply of the Army, at that date.*

Articles.	On hand June 30, 1872.	Purchased during fiscal year ending June 30, 1873.	Manufactured during fiscal year ending June 30, 1873.	Taken up during fiscal year ending June 30, 1873.	Total on hand June 30, 1873.	Issued during fiscal year ending June 30, 1873.	Sold during fiscal year ending June 30, 1873.	Lost, destroyed, or worn out during fiscal year ending June 30, 1873.	Total issued, sold, lost, &c., during year.	Total remaining on hand June 30, 1873.
Hats	277,191	13,000		8	290,199	15,704	69,388	3,312	88,404	201,795
Uniform-caps	1,550	4,202		7	5,759	1,456	781	3	2,240	3,519
Forage-caps	318,255	6,702		84	325,041	16,394	63,121	405	79,920	245,121
Cap-covers	61,412			2	61,414	137	9,307	319	9,763	51,651
Cap-bugles	372,013			616	372,629		188,885	6,358	195,243	177,386
Cap-letters	1,061,559			7,057	1,068,616		563,215	12,314	575,529	493,087
Castles	13,168			73	13,241		111	466	577	12,664
Shells and flames	19,691			2	19,693		16,648	83	16,731	2,962
Cords and tassels	563,855			842	564,697	7,024	4,111	928	12,063	552,634
Ostrich-feathers	326,819			606	327,425	5,426	24,565	538	30,529	296,896
Eagles	567,308			5,179	572,487		157,473	5,242	162,715	409,772
Numbers	1,558,234	50,000		18,146	1,626,380		237,313	23,073	260,386	1,365,994
Crossed sabors	191,682			584	192,266		89,081	4,625	93,706	98,560
Crossed cannon	147,225				147,225		106,244	1,478	107,722	39,503
Trumpets	116			34	150		150		150	
Tulips	3,500			67	3,567		910	12	1,922	1,645
Hair plumes	1,888	1			1,889	23	60	4	87	1,802
Cap-rings	4,165			82	4,247		1,186	363	1,549	2,698
Hospital-stewards' hat cords and tassels	2,845				2,845	3			3	2,842
Letters U. S., hospital-stewards'	261				261		100	1	101	160
Wreaths, hospital-stewards'	246			3	249	2	23		25	224
Bands and tassels, red	1,191				1,191	1	537		538	653
Cap-eagles	2,133				2,133		1,950		1,950	183
Hat-sockets	70,846				70,846		20,347	105	20,452	50,394
Cap-plates	327				327					327
Uniform-coats	252,121		15,704	200	268,025	5,933	46,663	4,000	56,596	211,429
Uniform-coats, white	7				7					7
Uniform-jackets	395,608		115	28	395,751	2,325	44,243	409	46,977	348,774
Uniform-jackets, red	5				5					5
Helmets		228			228	194		2	196	32
Metallic scales:										
Non-commissioned staff	5,222			19	5,241		1,620	23	1,643	3,598
Sergeants'	12,670			18	12,688		599	1,044	1,643	11,045
Corporals' and privates'	389,950			915	390,865		23,512	6,573	30,085	360,780
Buttons for scales	9,369			23	9,392		47	249	296	9,096

Uniforms:										
Linen	1				1					1
White	13				13					13
Cavalry, unmade			1, 255		1, 255					1, 255
Infantry, unmade			4, 546		4, 546					4, 546
Trousers:										
Foot	201, 726		24, 600	90	226, 416	59, 901	9, 103	763	69, 767	156, 649
Mounted	87, 691		17, 124	89	104, 904	35, 241	9, 626	509	45, 376	59, 528
Overalls	8, 433		3, 476	58	11, 967	2, 826	59	2	2, 887	9, 080
Flannel sack-coats:										
Lined	298, 997		27, 046	86	326, 129	54, 993	10, 697	764	66, 454	259, 675
Unlined	344, 492		40	1, 275	345, 807	28, 725	4, 002	564	33, 291	312, 516
Shirts, flannel	369, 724			731	370, 455	84, 111	13, 188	870	98, 169	272, 286
Drawers	731, 320			71	731, 391	140, 437	2, 356	1, 531	144, 324	587, 067
Boots	166, 856	32, 755		49	199, 660	64, 885	23, 827	365	89, 077	110, 583
Bootees	646, 494	24, 024		198	670, 716	70, 577	126, 608	545	197, 730	472, 986
Leggins	5, 314			1	5, 315	543	1	90	634	4, 681
Gaiters	3, 821			7	3, 828					3, 828
Stockings	215, 809	86, 272		495	302, 576	185, 722	1, 435	1, 023	188, 180	114, 396
Berlin gloves		29, 999			29, 999	12, 474	67		12, 541	17, 458
Great-coats:										
Cavalry	116, 217		1, 034	18	117, 269	20, 086	2, 220	5, 086	27, 392	89, 877
Infantry	256, 726		50	15	256, 791	6, 369	2, 468	1, 071	9, 908	246, 883
Lined	1, 012		3, 966	1	4, 979	500	23	8	531	4, 448
Blankets:										
Woolen	115, 648	11, 289		20	126, 957	34, 505	11, 618	2, 766	48, 889	78, 068
Rubber	406, 686			10	406, 696	5, 014	11, 322	989	17, 325	389, 371
Epaulet	1				1		1		1	
Ponchos:										
Rubber	269, 831			324	270, 155	3, 821	8, 156	126	12, 103	258, 052
Painted	1, 970				1, 970	142	36		178	1, 792
Stable-frocks	39, 791		8, 740	46	48, 577	11, 003	269	315	11, 587	36, 990
Buffalo overshoes	2, 029	5, 000		106	7, 135	3, 636	238	159	4, 033	3, 102
Buffalo overcoats	407				407	12	12		24	383
Mittens, wool	19, 080	10, 000		2	29, 082	10, 204	160	31	10, 395	18, 687
Mittens, buck	683				683	272	47	3	322	361
Chevrons:										
Ordnance sergeant	1, 001		136		1, 137	24	5	2	31	1, 106
Cavalry sergeant-major	1, 343		58		1, 401	6	63½		69½	1, 331½
Cavalry quartermaster-sergeant	1, 981		32	21	2, 034	6	253		259	1, 775
Cavalry commissary-sergeant	28				28		23		23	5
Cavalry first sergeant	4, 076		30	18	4, 124	18	603	2	623	3, 501
Cavalry sergeant	10, 912		206	44	11, 162	185	1, 366	9	1, 560	9, 602
Cavalry corporal	24, 366		319	151	24, 836	196	4, 265½		4, 461½	20, 374½
Artillery sergeant-major	1, 226		22	2	1, 250	1			1	1, 249
Artillery quartermaster-sergeant	1, 242		18		1, 260	3	4		7	1, 253
Artillery commissary-sergeant	32				32					32
Artillery first sergeant	3, 308		46	2	3, 356	11			11	3, 345
Artillery sergeant	13, 917		92	2	14, 011	53	3, 023	30	3, 106	10, 905
Artillery corporal	17, 839		150		17, 989	71	4, 830	20	4, 921	13, 068
Infantry sergeant-major	1, 474		28		1, 502	16	39	2	57	1, 445
Infantry quartermaster-sergeant	1, 451		6		1, 457	7	2	3	12	1, 445

A.—*Statement showing, as far as can be ascertained from the records of this Office, the quantity of clothing, &c.*—Continued.

Articles.	On hand June 30, 1872.	Purchased during fiscal year ending June 30, 1873.	Manufactured during fiscal year ending June 30, 1873.	Taken up during fiscal year ending June 30, 1873.	Total on hand June 30, 1873.	Issued during fiscal year ending June 30, 1873.	Sold during fiscal year ending June 30, 1873.	Lost, destroyed, or worn out during fiscal year ending June 30, 1873.	Total issued, sold, lost, &c., during year.	Total remaining on hand June 30, 1873.
Chevrons—Continued.										
Infantry commissary-sergeant	248				248	1			1	247
Infantry first sergeant	10, 654		42		10, 696	55	31	7	93	10, 603
Infantry sergeant	20, 064		214	13	20, 291	6	105	6	117	20, 174
Infantry corporal	35, 359		391	97	35, 847	550	145½	61	756½	35, 090½
Hospital-steward	481		3	2	486	21	24	1	46	440
Caduceus	1, 189		12		1, 201	14			14	1, 187
Service	71, 727		40		71, 767	120	209	1	330	71, 437
Miscellaneous	43, 011		93		43, 104	5	91½	1	97½	43, 006½
Lace, yards:										
1¼-inch, sergeants'	295, 556			1, 075	296, 631	8, 199¼	894	799½	9, 892¾	286, 738¼
½-inch, corporals'	552, 057			604	552, 661	6, 412½	1, 893½	1, 151½	9, 457½	543, 203½
Miscellaneous	1, 180, 285				1, 180, 285	287	105, 161		105, 448	1, 074, 837
Cord, worsted		84, 960			84, 960			62, 865½	62, 865½	22, 094½
Gilt aiguillette	1				1					1
Plumes:										
Swan, fountain	1				1					1
Vulture	4				4					4
Tape, bed-sack, pieces	1, 000				1, 000			416	416	584
Iron bunks	17, 448	7, 585		163	25, 196		867	166	1, 033	24, 163
Bed-slats:										
Sets			235		235					235
Number	1, 745	3, 509	6, 424	59	11, 737			1, 589	1, 589	10, 148
Bed-sacks:										
Single	98, 718		3, 292	662	102, 672	19	4, 398	10, 581	14, 998	87, 674
Double	42, 585		410	233	43, 228	11	1, 503	4, 787	6, 301	36, 927
Mosquito-bars:										
Single	58, 822			28	58, 850	4	916	2, 886	3, 806	55, 044
Double	6, 238				6, 238	1	163	172	336	5, 902
Spades	87, 918	1		293	88, 212	12	578	1, 224	1, 814	86, 398
Spade-slings	1, 500				1, 500			1	1	1, 499
Shovels	55, 791	296		613	56, 700		905	1, 987	2, 892	53, 808
Stencil-alphabets, sets		52			52		16		16	36
Stencil-figures, sets		52			52					52
Stencil-letters, 1 inch, sets		100			100					100
Stencil-letters, ½-inch, sets		100			100					100

Stencil-brushes		24			24					24
Stencil-tools, sets		1			1					1
Nails, cut, kegs		35			35			29	29	6
Nails, wrought, kegs		7			7			7	7	
Carpenters' hatchets		38			38					38
Axes	80, 063	4, 217		836	85, 116	12	2, 541	3, 687	6, 240	78, 876
Ax-helves	63, 658	89		1, 167	64, 914	12	1, 238	13, 864	15, 114	49, 800
Ax-slings	30, 788			2	30, 790		26	20	46	30, 744
Camp-kettles	95, 057	38		110	95, 205	2	655	2, 524	3, 181	92, 024
Mess-pans	408, 179			171	408, 350	2	275	2, 008	2, 285	406, 065
Hatchets	121, 469			217	121, 686	3	587	1, 296	1, 886	119, 800
Hatchet-helves	129, 498	35		255	129, 788	3	313	1, 616	1, 932	127, 856
Hatchet-slings	27, 404			4	27, 408		43	9	52	27, 356
Sand-fly bars	140				140			1	1	139
Flags:										
Garrison	1, 130			5	1, 135		16	68	84	1, 051
Storm	1, 421	240		15	1, 676		46	200	246	1, 430
Garrison and storm halliards	2, 066	241		13	2, 320		39	130	169	2, 151
Recruiting	1, 477				1, 477		8	102	110	1, 367
Recruiting halliards	3, 185			3	3, 188		4	32	36	3, 152
Camp-colors, infantry	5, 642				5, 642		5	23	28	5, 614
Camp-colors, artillery	60				60			5	5	55
Camp-color cases	39				39		3	2	5	34
Guidons	2, 181	2			2, 183		13	80	93	2, 090
Guidon-cases	135			69	204			11	11	193
Standards, cavalry	916				916	17		2	19	897
National colors, artillery	7				7			1	1	6
National colors, infantry	702				702			1	1	701
Regimental colors, artillery	201				201			1	1	200
Regimental colors, infantry	734				734			2	2	732
General hospital	417				417					417
Ambulance, or red	2, 201				2, 201					2, 201
Post and field hospital	777				777			2	2	775
Ambulance and guidon	2, 639				2, 639		74		74	2, 565
Hospital-guidon	31				31					31
Designating, corps, &c	48				48					48
Signal	7				7		3		3	4
Post and field	212				212					212
Miscellaneous	1	2			3			1	1	2
Color-cases	12				12			4	4	8
Color cords and tassels	132				132					132
Color belts and slings	966				966			2	2	964
Color-belt slings	1, 174				1, 174					1, 174
Staffs, assorted	553				553					553
Flag-poles	3				3		1		1	2
Trumpets	3, 393	50		61	3, 504		30	189	219	3, 285
Bugles with extra mouth-pieces	3, 447			15	3, 462		44	186	230	3, 232
Bugle and trumpet extra mouth-pieces and crooks	1, 512	50		10	1, 572		22	55	77	1, 495
Cords and tassels	17, 777			55	17, 832		92	262	354	17, 478
Fifes	13, 420			5	13, 425		66	154	220	13, 205
Drums:										
Complete	4, 661			7	4, 668		36	146	182	4, 486

A.—*Statement showing, as far as can be ascertained from the records of this Office, the quantity of clothing, &c.*—Continued.

Articles.	On hand June 30, 1872.	Purchased during fiscal year ending June 30, 1873.	Manufactured during fiscal year ending June 30, 1873.	Taken up during fiscal year ending June 30, 1873.	Total on hand June 30, 1873.	Issued during fiscal year ending June 30, 1873.	Sold during fiscal year ending June 30, 1873.	Lost, destroyed, or worn out during fiscal year ending June 30, 1873.	Total issued, sold, lost, &c., during year.	Total remaining on hand June 30, 1873.
Drums—Continued.										
Heads, batter	9, 319	2, 600	....	39	11, 958	....	75	1, 278	1, 353	10, 605
Heads, snare	13, 889	....	....	38	13, 927	....	191	1, 219	1, 410	12, 517
Slings	10, 889	....	....	17	10, 906	....	46	177	223	10, 683
Sticks, pairs	17, 249	....	....	11	17, 260	....	37	178	215	17, 045
Stick-carriages	13, 545	....	....	....	13, 545	....	5	102	107	13, 438
Cords	4, 865	....	....	25	4, 890	....	99	538	637	4, 253
Snares, sets	10, 282	....	....	24	10, 306	....	65	296	361	9, 945
Cases	6, 061	....	....	15	6, 076	....	63	48	111	5, 965
Tents:										
Hospital	5, 329	....	....	4	5, 333	....	65	499	564	4, 769
Hospital flies	4, 815	....	....	3	4, 818	....	47	369	416	4, 402
Hospital poles, sets	6, 620	....	31	17	6, 658	....	496	169	665	6, 003
Wall	7, 505	....	41	29	7, 575	....	286	674	960	6, 615
Wall flies	6, 168	....	168	7	6, 343	....	225	602	827	5, 516
Wall poles, sets	12, 185	....	....	8	12, 193	....	696	867	1, 563	10, 630
Common	26, 219	....	262	43	26, 524	....	954	3, 184	4, 138	22, 386
Common poles, sets	27, 407	3, 368	....	35	30, 810	....	408	2, 579	2, 987	27, 823
Shelter	703, 694	....	....	205½	703, 899½	....	1, 886	12, 571	14, 457	689, 442½
Shelter poles, sets	77, 012	....	....	20	77, 032	....	25	1, 350	1, 375	75, 657
Sibley	37	....	1	3	41	....	37	4	41	....
Sibley poles	448	....	1	....	449	....	26	16	42	407
Sibley tripods	278	....	....	....	278	....	4	2	6	272
Miscellaneous	868	....	....	1	869	....	....	....	....	869
Extra wall ridge-poles	14	....	....	715	729	....	724	5	729	....
Extra wall upright poles	....	....	....	17	17	....	....	17	17	....
Shelter-tent guys	1, 170	....	....	....	1, 170	....	....	....	....	1, 170
Shelter-tent rings and cords	260	....	....	....	260	....	....	....	....	260
Rope, feet	18, 544	....	....	....	18, 544	....	....	6, 025	6, 025	12, 519
Tent-pins, assorted	1, 610, 634	....	17	5, 068	1, 615, 719	....	51, 917	102, 061	153, 978	1, 461, 741
Sibley-tent stoves	2, 099	....	....	3	2, 102	....	30	56	86	2, 016
Sibley-tent pipe, joints	112	....	....	272	384	....	33	351	384	....
Sibley-tent pipe, sets	535	....	....	....	535	....	3	2	5	530
Tent-buttons	20, 000	....	....	....	20, 000	....	....	5, 000	5, 000	15, 000
Iron pots	2, 850	....	....	55	2, 905	....	6	178	184	2, 721

Clothing account, company	12, 316			14	12, 330		12	152	164	12, 166
Descriptive, company	12, 755			2	12, 757		13	116	129	12, 628
Order, company	12, 647			5	12, 652		11	233	244	12, 408
Morning report, company	13, 526			18	13, 544		11	178	189	13, 355
Post order	5, 870				5, 870		30	45	75	5, 795
Post morning report	6, 428			12	6, 440		23	36	59	6, 381
Post letter	6, 132			2	6, 134		26	48	74	6, 060
Post guard report	3, 562			4	3, 566		11	148	159	3, 407
Regimental general order	2, 175				2, 175		20	10	30	2, 145
Regimental letter	1, 996			3	1, 999		5	14	19	1, 980
Regimental descriptive	2, 636			5	2, 641		5	5	10	2, 631
Regimental index	2, 520				2, 520		10	7	17	2, 503
Regimental order	2, 183				2, 183		3	16	19	2, 164
Target practice	2, 484			2	2, 486			8	8	2, 478
Miscellaneous	947			3	950		1	172	173	777
Books—paper covers:										
Morning report, company	57				57			12	12	45
Clothing account, company	9				9			7	7	2
Order, company	14				14			7	7	7
Descriptive, company	10				10			10	10	
Miscellaneous:										
Hats, light colored	219	1, 428			1, 647		812	55	867	780
Hats, straw				1	1		1		1	
Fatigue-frocks, cotton			110		110					110
Seal-skins	1, 856				1, 856					1, 856
Fur caps	304				304					304
Snow-packs	24				24					24
Beeswax		400			400			200	200	200
Burlaps	13, 979			6, 502	20, 481		6	6, 358	6, 364	14, 117
Diagrams of clothing	3, 990				3, 990		3, 990		3, 990	
Nails, papers	10, 000				10, 000					10, 000
Needles, papers		1, 500			1, 500			225	225	1, 275
Palms		14			14					14
Paper, petroleum	38, 437	43, 737		600	82, 774			39, 865	39, 865	42, 909
Paper, wrapping	7, 895	217		9, 000	17, 112			476	476	16, 636
Sealing-wax		370			370			280	280	90
Sewing-machines	6				6		6		6	
Screws, gross		245			245			90	90	155
Silk tassel	1				1					1
Silk markers		4			4					4
Tailors' crayons	693	30			723			58	58	665
Materials:										
Dark-blue uniform cloth, 6-4	172, 805				172, 805	1, 146	1, 746. 9	52, 342⅜	55, 235⅝	117, 569⅜
Dark-blue uniform cloth, 3-4	1, 242¼			2¼	1, 255½	88	432¾		520¾	734¾
Dark-blue flannel, 6-4	79, 312½			½	79, 313	89	620⅞	22, 275¾	22, 985⅝	56, 327⅜
Dark-blue flannel, 3-4	1, 107, 521				1, 107, 521	243½	321¼	55, 747⅝	56, 312⅜	1, 051, 208⅝
Light-blue flanel	50				50					50
Sky-blue kersey, 6-4	32, 691			36½	32, 727½	165½	647¼	20, 641¼	21, 454	11, 273½
Sky-blue kersey, 3-4	666, 016½			62	666, 078½	228⅜	892⅞	136, 694¼	137, 815½	528, 263
Facing cloth, assorted	1, 339	83, 239			84, 578	⅛	67⅝	83, 692⅜	83, 760⅛	817⅞
White wool flannel	4, 429				4, 429			10	10	4, 419

A.—*Statement showing, as far as can be ascertained from the records of this Office, the quantity of clothing, &c.*—Continued.

Articles.	On hand June 30, 1872.	Purchased during fiscal year ending June 30, 1873.	Manufactured during fiscal year ending June 30, 1873.	Taken up during fiscal year ending June 30, 1873.	Total on hand June 30, 1873.	Issued during fiscal year ending June 30, 1873.	Sold during fiscal year ending June 30, 1873.	Lost, destroyed, or worn out during fiscal year ending June 30, 1873.	Total issued, sold, lost, &c., during year.	Total remaining on hand June 30, 1873.
Materials—Continued.										
Gray shirting	680, 685			37¼	680, 722¼		172⅝	28, 618¼	28, 790⅞	651, 931⅜
Scarlet flannel	3, 400			26⅜	3, 426⅜	35½	70	3, 320⅞	3, 426⅜	
Brown drilling	880, 713				880, 713		24½	31, 178	31, 202½	849, 510½
Brown muslin	442, 065½				442, 065½		123	83	206	441, 859½
Bleached muslin				155	155		129	26	155	
Canton flannel	368, 322½				368, 322½	80	362	38, 506	38, 948	329, 374½
Scarlet cloth	10				10	1		3	4	6
Black silesia	36, 944	36, 435½			73, 379½		64½	39, 724	39, 788½	33, 591
Canvas padding	2, 230				2, 230			2, 230	2, 230	
Silk lace, assorted				18	18		11	7	18	
Worsted braid, assorted	89, 336	3, 024			92, 360		20, 000	4, 212	24, 212	68, 148
Buttons, assorted	786, 305				786, 305		17, 372	9, 217½	26, 589½	759, 715½
Thread, spools		29, 296			29, 296		2, 310	1, 760	4, 070	25, 226
Thread, pounds	12, 477	3, 855			16, 332			2, 274⅝	2, 274⅝	14, 057⅜
Thread, skeins	1, 345				1, 345			490½	490½	854½
Lacing-cord, pounds	7, 379				7, 379		44		44	7, 335
Lacing-cord, feet	1, 086, 157	50			1, 086, 207					1, 086, 207
Bunting	119	1			120			85⅔	85⅔	34⅓
Rope, baling, pounds	2, 039	2, 013			4, 052			4, 052	4, 052	
Rope, Manila, pounds	71, 902½				71, 902½			4, 649	4, 649	67, 253½
Duck, cotton, 8-oz	400, 820			6, 667½	407, 487½			17, 665¾	17, 665¾	389, 821¾
Duck, canvas	2½			10, 900	10, 902½		1¼	5, 517½	5, 518¾	5, 383¾
Duck, white	195				195	1			1	194
Webbing-cotton	1, 008				1, 008			752	752	256
Silk, sewing, pounds	116	328			444		222¾		222¾	221¼
Silk, sewing, spools	246	1, 998			2, 244		2, 244		2, 244	
Silk twist, oz		960			960			223	223	737
White Holland	26				26					26
Baskets		2			2					2
Boxes, packing	9, 443	3, 050			12, 493	430	351	3, 052	3, 833	8, 660
Boot-trees	194				194		194		194	
Brass scraps, pounds				20	20		20		20	
Brass sheets		50			50			25	25	25
Brushes, cloth		36			36					36
Brushes, dusting		6			6					6

Cuttings, cotton, pounds				4,160	4,160		4,000		4,000	160
Cuttings, wool, pounds				11,600	11,600		6,000		6,000	5,600
French chalk, boxes		1			1			1	1	
French lead, boxes		2			2			2	2	
Fullers' boards		240			240			240	240	
Gas-burners		50			50			50	50	
Hickory straps	960	1,700			2,660	300		1,990	2,290	370
Iron straps				3,900	3,900		1,500		1,500	2,400
Iron scraps, pounds				65	65		65		65	
Lasts	348				348		348		348	
Lumber, lots				1	1		1		1	
Lumber, pine, feet	17,000	20,100			37,100			24,100	24,100	13,000
Matches, boxes		430			430			200	200	230
Powder, Persian insect		2			2			2	2	
Rags				3,574	3,574		3,574		3,574	
Resin		460			460			100	100	360
Rubber sandstones		12			12					12
Shoe-knives		5			5					5
Sod-cloths				2,800	2,800					2,800
Table-cloths		28			28					28
Tags		50,000			50,000	2,160		2,660	4,820	45,180
Tarred marlin				35	35			35	35	
Tent cuttings, pounds	628				628					628
Trucks		12			12					12
Turpentine, gallons		25			25			10	10	15
Twine, blocking, pounds	502	2,019			2,521			1,660	1,660	861
Twine, cotton, pounds	7,904				7,904			15	15	7,889
Twine, flax, pounds	99	332			431			344	344	87
Twine, hemp, pounds	257				257					257
Wagon-covers				228	228			228	228	
Tickets, clothing	39,755			45	39,800			39,800	39,800	

Respectfully submitted.

J. D. BINGHAM,
Quartermaster U. S. A., Bvt. Brig. Gen.

QUARTERMASTER-GENERAL'S OFFICE, *Washington, D. C., October* 2, 1873.

B.—*Statement showing expenditures on account of clothing and camp and garrison e age, during the fiscal year ending June* 30, 1873.

Military Division of the Pacific	$65, 8
Department of the East	6
Department of the Lakes	1, 4
Department of the South	2
Department of the Gulf	5
Department of the Missouri	3, 0
Department of the Platte	6, 9
Department of Dakota	2, 2
Depot at New York	19, 5
Depot at Philadelphia, Pa	683, 7
Depot at Washington, D. C	1, 9
Depot at Jeffersonville, Ind	68, 9
Depot at Chicago, Ill	6
Depot at Saint Louis, Mo	2, 7
Military Academy at West Point, N. Y	
Various arsenals of Ordnance Department	
Transfer to Ordnance Department, for the manufacture of knapsacks, &c	41, 9
Total	900, 3

Respectfully submitted.

J. D. BINGHAM,
Quartermaster, U. S. A., Bvt. Brig. G

QUARTERMASTER-GENERAL'S OFFICE, *October* 2, 1873.

C.—*Statement of amounts received from the sale of surplus serviceable, unserviceable, aged, and irregular articles of clothing &c., sold at the principal clothing depots, also, of the amounts derived from sales to officers during the fiscal year ending June* 30,

From sales at Jeffersonville, Ind	$143, 51
From sales at Philadelphia, Pa	247, 0
From sales at the other depots of the Quartermaster's Department	47, 63
From sales to officers	18, 8
Total	456, 9

Respectfully submitted.

J. D. BINGHAM,
Quartermaster, U. S. A., Bvt. Brig. G

QUARTERMASTER-GENERAL'S OFFICE, *October* 2, 1873.

D.—*Statement of the amounts received and expended by the Quartermaster's Departmen account of clothing, and camp and garrison equipage during the fiscal year ending* 30, 1873.

Receipts:	
Appropriations by Congress	$900, 00
Deposited in Treasury by officers to credit of appropriation	36
Received from sales	456, 98
Total receipts during fiscal year	1, 357, 35
Total expenditures during fiscal year	1, 357, 35
Balance in Treasury June 30, 1873	
Expenditures:	
Expenditures for clothing and equipping the Army	$858, 41
Transfer to Ordnance Department, on account of knapsacks	41, 95
Covered into the Treasury, from sales, &c	456, 98
Total expenditures	1, 357, 35

Respectfully submitted.

J. D. BINGHAM,
Quartermaster, U. S. A., Bvt. Brig. G

QUARTERMASTER-GENERAL'S OFFICE, *October* 2, 1873.

E.—*Statement of returns of clothing and camp and garrison equipage received, examined, and transmitted to the Treasury Department, and of letters received and written during the fiscal year ending June* 30, 1873.

Number of returns of clothing and equipage on hand June 30, 1872	80
Number of returns of clothing and equipage received during fiscal year	3,943
Total	4,023
Number of returns of clothing and equipage examined and transmitted to Treasury Department	3,647
Remaining on hand June 30, 1873	376
Number of letters received pertaining to settlement of officers' accounts	2,456
Number of letters received pertaining to the purchase, manufacture, and issue of clothing and equipage	1,909
Total	4,365
Number of letters written pertaining to settlement of officer's accounts	6,396
Number of letters written pertaining to the purchase, manufacture, and issue of clothing and equipage	3,265
Total	9,661

Respectfully submitted.

J. D. BINGHAM,
Quartermaster, U. S. A., Bvt. Brig. Gen.

QUARTERMASTER-GENERAL'S OFFICE, *October* 2, 1873.

F.—*Statement showing number of claims received and acted upon during the fiscal year ending June* 30, 1873, *on account of clothing and equipage.*

Twelve claims received, amounting to	$19,678 42
Six claims referred to Third Auditor of the Treasury, with recommendation for settlement, amounting to	5,792 10
Three claims referred to Third Auditor of the Treasury, with recommendation that they be disallowed, amounting to	8,209 86

Respectfully submitted.

J. D. BINGHAM,
Quartermaster, U. S. A., Bvt. Brig. Gen.

QUARTERMASTER-GENERAL'S OFFICE, *October* 2, 1873.

V.—*Report of Maj. M. I. Ludington, quartermaster, U. S. A.*

QUARTERMASTER-GENERAL'S OFFICE,
September 25, 1873.

GENERAL: I have the honor to submit the following report of the operations of the several branches of your Office under my charge during the fiscal year ending June 30, 1873:

INDEBTED RAILROAD COMPANIES.

At the close of the fiscal year ending June 30, 1872, there were due the United States from railroad companies which purchased railway material and rolling-stock under the provisions of Executive orders of August 8 and October 14, 1865, and for repairs to railroads, $4,734,442.43. During the fiscal year ending June 30, 1873, interest has accrued upon this indebtedness and expenses have been incurred to the amount of $101,573.95. Payments have been made and credited to the companies to the amount of $151,303.44.

On July 1, 1873, there remained an indebtedness of $4,658,924.07 to be collected, not including the sum of $25,788.87 due from the New Orleans and Ohio Railroad Company, which cannot be collected by reas of the company being bankrupt.

By referring to the report for the fiscal year ending June 30, 1872, will be seen that during that fiscal year the debt increased $10,091. During the last fiscal year it has decreased in the manner indicat $75,518.36.

Accompanying this report there is a statement marked A, showi the original indebtedness of each company; the total increase on count of interest and expenses; the increase or decrease of the de during the year; the payments made during the year; the total pa ments, and the balance unpaid July 1, 1873.

Four companies, the Alabama and Florida, the Indianola, now t Gulf, Western Texas and Pacific, the Mississippi and Tennessee, a the Pacific Railroad of Missouri—main stem—have discharged their debtedness during the year.

Seven companies, the Alexandria, London and Hampshire, the A bama and Chattanooga, the East Tennessee and Georgia, the East Te nessee and Virginia, the Nashville and Chattanooga, the Nashville a Decatur, and the Southwest Branch Pacific Railroad of Missouri, duced their indebtedness $94,339.02. These companies also paid on count of interest $1,756.62, making their total payments during t year $96,095.64.

The indebtedness of nine companies, the Edgefield and Kentuck the Knoxville and Kentucky, the McMinnville and Manchester, t Mississippi, Gainesville and Tuscaloosa, the Mobile and Ohio, the Me phis, Clarksville and Louisville, the Memphis and Little Rock, the Nas ville and Northwestern, and the Selma, Rome and Dalton, has increas $83,528.29. The companies have, however, paid to the United Sta during the year $15,976.40.

In addition to the amount stated to have been received and applied the liquidation of this indebtedness, accounts for the transportation the troops and property of the United States remain unadjusted, as f lows, to wit:

Alabama and Chattanooga Railroad Company, in Treasury Department	$149
East Tennessee and Virginia Railroad Company, in Treasury Department	19,529
East Tennessee and Georgia Railroad Company, in Treasury Department	8,084
Edgefield and Kentucky Railroad Company, in Treasury Department	4
Mobile and Ohio Railroad Company, in Treasury Department	75,775
Mobile and Ohio Railroad Company, in Quartermaster-General's office—suspended	414
Memphis, Clarksville and Louisville Railroad Company, in Treasury Department	3,593
Memphis, Clarksville and Louisville Railroad Company, in Quartermaster-General's office	5,699
Nashville and Northwestern Railroad Company, in Treasury Department	1,474
Nashville and Chattanooga Railroad Company, in Treasury Department	20,812
Southwest Branch Pacific Railroad of Missouri, in Treasury Department	841
Selma, Rome and Dalton Railroad Company, in Treasury Department	5,874
Total	142,253

When these accounts shall have been finally examined and adjust they will be placed to the credit of the respective railroad compani thereby reducing the total indebtedness, as shown above, to $4,51 670.28.

There is also due for postal service rendered by these companies abo $101,000, which, when paid over by the Post-Office Department, as co templated by the seller and purchaser of the property, will still furth reduce the debt.

In this connection your attention is invited to the necessity for Congressional legislation, or other authoritative action, to provide for the payment to this Department, at the end of each and every quarter, of all money due any indebted railroad company for postal service, until its ndebtedness has been discharged, and notice to that effect given by the Quartermaster-General.

The necessity for such action is found in the following: Under the provisions of Executive Orders of August 8 and October 14, 1865, large quantities of railway material and rolling-stock, amounting in value to $4,665,061.16, were sold on credit to the railroad companies now indebted, on the express condition, among others, that all postal earnings of the several companies should be applied to the liquidation of the debts. Subsequent negotiations and agreements have recognized and affirmed this condition. The companies carry the mails, and the Postmaster-General, in settlement for the service, directs that the amount found due for it be placed to the credit of the Quartermaster's Department.

Before the Auditor of the Treasury for the Post-Office Department, whose duty it is to make payment for postal service, will place the money to the credit of the Quartermaster's Department, or, in other words, pay t over to this Department, he requires each railroad company, by an agent appointed by its board of directors, to give an order in favor of this Department for the amount due. Until such an order has been given the money remains as a part of the appropriations for the Post-Office Department, and is not transferred to the appropriations for the Quartermaster's Department; neither can it be placed to the credit of the railroad companies on the books of this office.

The Auditor holds that he has no authority to pay to the Quartermaster's Department money due for service rendered by these railroad companies without an order from them requesting that it be done, notwithstanding the fact that it was one of the conditions on which the property was sold that the money, when earned, should be placed to their credit, and notwithstanding the further fact that this office has urged that a contract, executed by this Department by order of the President of the United States, should be respected by the other Departments of the Government. In order, therefore, that the Auditor may pay the money to this Department, or rather more properly, issue his warrant therefor, so that a transfer of the money to the appropriations for this Department can be made, and the proper credit be given, some action by Congress, or other competent authority, seems to be absolutely necessary.

I have further to report that I am informed that under the act of July 12, 1870, sections 5 and 6, the money due for a portion of this service has been turned into the Treasury, so that, without a specific appropriation, the amount due for services prior to the time the moneys were so turned into the Treasury cannot be transferred to this Department and applied to the liquidation of the debt. There is, in fact, no money to be so applied.

Since the date of my last annual report, the suit against the Nashville and Decatur Railroad Company has been compromised and settled, under the act of March 3, 1871, (16 Stat., chap. 109,) for the sum of $70,000—$6,000 cash, balance payable in ten years from July 1, 1872, with interest at the rate of 5 per cent. per annum, payable semi-annually, on the first days of January and July of each year.

The indebtedness of the company to this amount is evidenced by its bond with interest coupons attached, and payment secured by a lien upon all the property and franchises of the company, by guarante the Louisville and Nashville Railroad Company, and by decree of United States circuit court, affirming the liability of the company, t enforced by execution in case of default in making payment accor to the terms agreed upon.

I cannot report any progress in the suits against the Nashville Northwestern, the McMinnville and Manchester, and the Knoxville Kentucky railroad companies during the year, though I have urged they be brought to a hearing as soon as possible.

The suit against the McMinnville and Manchester Railroad Comp has been postponed, at the request of counsel for the company, pen decision of the suit of that company against the Nashville and Cha nooga Railroad Company. The question of a longer postponemen now under consideration.

By reference to the table herewith it will be seen that the indeb ness of the Alabama and Chattanooga Railroad Company has bee duced to $3,980.02. Since the first of July I have received $2,775.5 account of postal services rendered by the company, and the am that will be due for services rendered during the third quarter of will more than liquidate its debt.

The Memphis and Little Rock Railroad Company has made no ments on its indebtedness during the year. It has carried the mails the amount due for that service is retained by the Auditor of the T ury for the Post-Office Department, that officer declining to pay money over to this Department, as required by the contract bet the company and this Department, without an order from the com requiring it to be done, and the company refuses to give the order.

Learning some few months since that the road had been sold by cree of court under its second mortgage, I made inquiry of the U States district attorney for information upon that point and the ad bility of bringing suit against the company to recover the amount the United States. The district attorney in reply stated that the was sold to Mr. Witt on the 17th day of March last; that he had informed that measures were being taken to have the road sold u the first mortgage; that such a sale might embarrass the Governme making a collection, should it be compelled to collect it by distrai suit; and that further delay of the payment of this debt is hazardo the Government.

With these facts before the office, and the knowledge that the rail company not only was not making any payments, but would not when it could, a statement of the case was submitted to the Secre of War, with the recommendation that suit be instituted to recove amount due. The recommendation was approved, and the papers been sent to Messrs. Perry and Mathews, with instructions to bring at once.

In my annual report for the fiscal year ending June 30, 1871, I st that "Arrangements had been made with the Selma, Rome and Da Railroad Company, under which payment of its debt is to be ma monthly installments of $1,000 each, in money, commencing on th of October, 1871, and continuing for one year; thence for one $2,000 per month, and thereafter $3,000 per month until the debt is charged. In addition to the foregoing payments, all postal earn and earnings from military transportation are to be applied to the ment of the debt."

It is now my duty to report that the company has failed to kee written promise and agreement so far as the payment of the mo nstallments is concerned, or to show any intention to comply therewith. This is the more remarkable because the president of the company, in his letter asking that the company be permitted to pay its debt upon hese terms, said he did it with the approval of the directors of the oad, and that it was not his intention to submit a proposition which he could not fulfill—"knowing the honesty of my purpose, I trust the foregoing proposition will be accepted."

The company has carried the mails and furnished whatever transportation has been required. The amounts due for the transportation service have been, or will be so soon as the accounts can be settled, placed o the credit of the company; but the amount due for carrying the mails the past year has not been paid, because the Auditor refuses to pay without an order from the company, and the company refuses to give the order.

Further action, either by legislation or suit, is necessary to compel payment of this debt.

During the fiscal year I received from indebted railroad companies in money and postal dues $75,972.90, all of which has been deposited in the Treasury of the United States, and also credited upon their indebtedness.

TRANSPORTATION.

It is shown by reports of officers, so far as received, that the Quartermaster's Department transported by rail, water, wagon, and stage during the fiscal year 72,860 persons, 8,148 animals, and 164,125,223 pounds of material.

The remodeled system of transportation referred to in my last annual report, having been approved by the Hon. Second Comptroller, has been adopted and is believed to work satisfactorily and advantageously. It was published in General Orders No. 98, Adjutant-General's Office, series 1872. A copy of this order was transmitted to each railroad and other transportation company in the United States known to this office.

RAILROAD TRANSPORTATION.

The reports of officers show that 32,935 persons, 6,122 animals, and 76,649,739 pounds of material were carried by railroad.

Amount paid for railroad transportation as reported by disbursing officers of this Department	$555,198 28
Amount of accounts for similar service rendered during the fiscal year referred by this office to the Treasury Department for settlement	366,316 59
Total settlements for railroad-transportation service during the year	921,514 87

The records of this office show the transportation service performed by the Pacific Railroads for this Department during the fiscal year to have been as follows, viz:

Name of company.	Number of persons transported.	Number of animals transported.	Pounds of freight transported.
Union Pacific Railroad	6,166	1,763	21,697,106
Central Pacific of California	3,034	63	2,444,211
Kansas Pacific Railroad	1,951	390	5,711,947
Sioux City and Pacific Railroad	223	36	3,544,054
Total	11,374	2,252	33,397,318

The cost of service performed by the Pacific railroads during
fiscal year, so far as accounts have been received at this office, may
stated as follows:

Name of company.	Amount of accounts referred to the Treasury for settlement.	Amount of accounts rendered and under examination July 1, 1873.	Tota
Union Pacific Railroad	$211, 339 87	$48, 536 48	$259, 8
Central Pacific of California	70, 186 23	32, 262 84	102, 4
Kansas Pacific Railroad	56, 173 61		56, 1
Sioux City and Pacific Railroad	1, 383 26	351 66	1, 7
Total	339, 082 97	81, 150 98	420, 2

At the date of this report all of the accounts for each month's serv
performed by these railroads, during the fiscal year, have not b
received at this office, but taking the monthly average value of
accounts, already presented for settlement, as a basis, their total ea
ings during the year would be as follows:

Union Pacific Railroad Company	$445,50
Central Pacific Railroad Company	136,59
Kansas Pacific Railroad Company	149,79
Sioux City and Pacific Railroad Company	2,40
	734,29

By act of Congress approved July 2, 1864, (section 5,) one-half of
compensation for services rendered for the Government by those Pa
railroads that had received Government bonds in aid of their const
tion was required to be applied to the payment of the bonds so iss
by the Government. The other half of their earnings was paid to
companies in cash, until the passage of the act of Congress of Ma
3, 1873, (section 2,) which directs the Secretary of the Treasury to w
hold all payments to said railroad companies to the amount of payme
made by the United States for interest upon bonds of the United Sta
issued to said companies.

In view of the provisions of this law of March 3, 1873, the Quar
master-General requested information from the Second Comptrolle
to whether the earnings of these roads were still to be made a cha
against the appropriation for the Quartermaster's Department, "
propriation for transportation of the Army."

The Acting Second Comptroller decided August 4, 1873, "That
moiety withheld from Pacific Railroads, under section 2 of act of Ma
3, 1873, although it be not paid to the railroads except in the even
a favorable judgment of the court, must be charged against approp
tion of the Quartermaster's Department for transportation of
Army."

Therefore, although payment is withheld from the companies, the
amount earned by these roads is now, as before passage of act of Ma
3, 1873, to be taken from appropriation of the Quartermaster's Dep
ment for Army transportation.

WAGON AND STAGE TRANSPORTATION.

The transportation by wagon was as follows: 756 passeng
32,004,635 pounds of freight.

The reports show the transportation by stage to have been 1,380 pas-
ngers and 3,648 pounds of freight.

mount paid for wagon transportation as reported by disbursing officers of this Department	$977,753 94
mount of accounts for service rendered during the fiscal year, referred by this office to the Treasury Department for settlement	189 50
Total for wagon-transportation service rendered during the year	977,943 44
mount paid during the year for stage transportation as reported by disbursing officers of this Department	59,262 29
mount of accounts for survices rendered during the fiscal year, referred by this office to the Treasury Department for settlement	57 00
Total for stage-transportation service rendered during the year	59 319 29

Thirty-two contracts for wagon transportation were made during the
ear. The contract for wagon transportation from most convenient
oints on the Atchison, Topeka and Santa Fé, Kansas Pacific and
enver and Rio Grande railroads, to posts in the Department of Mis-
ouri, as also in the State of Texas, north of Red River and west of the
th meridian, and Camp Apache, Ariz., from May 10, 1873, to March
1, 1874, was made at the rate of 90¾ cents per 100 pounds per one hun-
red miles. The average of the rate for this service during the previous
ntract year from points on the same roads was $1.17½ per 100 pounds
er one hundred miles.

The existing contract rates for wagon-service in Texas show also a
aterial reduction in the price per 100 pounds per one hundred miles,
compared with the contract rates for previous years.

The decrease of rates in the Department of Texas, as also in the De-
artment of Missouri, is doubtless due in a great measure to the short-
ning of the distance of wagon travel consequent upon the rapid com-
letion of the lines of railroad west and southwest toward the posts to
e supplied, wherefore freighters, no longer subject to the delays and
angers of travel over the previous longer routes, can afford to trans-
ort stores at more reasonable rates per 100 pounds per one hundred
iles.

A slight increase of rates generally over those of the previous year
as paid under the contracts for hauling on the Pacific coast made
uring the year ending June 30, 1873.

WATER TRANSPORTATION.

There were carried by water for the Department during the fiscal year
,789 persons, 2,026 animals, and 55,467,201 pounds of material.

he amount paid on account of this service by disbursing officers during the year, so far as was reported, was	$751,018 22
ccounts and claims for similar service rendered during the fiscal year, audited in this office and referred to the Treasury for settlement, amounted to	9,955 36
Total	760,973 58

The following vessels owned by the Government have been in service
uring the entire fiscal year, viz:

Steam-tug General A. A. Humphreys, employed at Boston.
Propeller General McPherson, employed at San Francisco.
Schooner Margaret, employed at Portland, Oreg.
Steam-launch Pulaski, employed at Fort Pulaski, Ga.

Schooner Matchless, employed at Fort Jefferson, Fla.

The cost during the year of running and maintaining these ve owned by the Government was $37,413.19.

Twelve vessels of different kinds have, at various times as the cessities of the service required, been employed by charter or other during the year at an expense of $43,056.76, which, together with of running and maintaining vessels owned by the United States, i cluded in the amount hereinbefore reported as having been pai account of water transportation by disbursing officers of this De ment.

Transportation appropriation and its disbursement.

Original amount appropriated for fiscal year 1872–'73	$4,000, 0
Deficiency appropriation	500, 0
Total	4,500, 0

Recapitulation of expenditures made from appropriation for Army t portation up to July 1, 1873, *for transportation service rendered d the fiscal year* 1872–'73.

Kind of transportation.	Passengers	Freight.	Expenditures.	To
For railroad transportation	$595, 344 33	$324, 972 92	$1, 197 62	$921,
For water transportation, including expenses of running and maintaining Government vessels	192, 193 64	515, 305 35	53, 474 59	760,
For wagon transportation	577 46	924, 732 50	52, 633 48	977,
For stage transportation	54, 206 47	1, 526 47	3, 586 35	59,
Total	842, 321 90	1, 766, 537 24	110, 892 04	2, 719,

For purchase of transportation animals; for purchase and repairing of Army and spring wagons, carts, harness, &c.; for hire of teamsters; for pumps and other apparatus to supply posts with water, estimated	1, 350,
Amount paid for building and repairing wharves, for digging wells, and for tolls	18,
Grand total	4, 087,

Since the close of the fiscal year officers have made payments, an port an outstanding indebtedness to be met, the totals of which absorb about all the balance of the appropriation, and to settle u the decision of the Second Comptroller of August 4, 1873, befor ferred to, the accounts of the Pacific Railroad for service during year, now under examination at this office and to come in, a defici appropriation will probably be necessary.

Transportation accounts of previous fiscal years.

During the fiscal year accounts and claims for transportation se performed during the previous fiscal years were referred by this to the Treasury Department for settlement as follows:

For railroad transportation	$450, 7
For water transportation	130, 1
For wagon transportation	62, 7
For stage transportation	1, 1
For miscellaneous transportation-claims, telegrams, &c	7, 5
Total	652, 4

REGULAR AND MISCELLANEOUS SUPPLIES.

CONTRACTS.

There were filed and examined in this office during the fiscal year 14 contracts, as follows: 230 for forage, embracing 5,664,734 pounds ' oats or barley, 457,940 bushels of oats, 345,937 bushels of corn, 30,744 ns of hay, 439,000 pounds of bran; 6 for forage as required, 23 for oth forage and fuel; 11 for straw, 2,508 tons; 30 for coal, 22,011 tons; 4 for wood, 84,022 cords; 2 for wood as required; 37 for charcoal, ,075 bushels; 4 for the construction of quarters, 47 for transportaon, 5 for miscellaneous services; 7 for horses and mules, 701 cavalry orses, 35 artillery horses, and 100 mules; 12 for clothing, camp and arrison equipage; 16 for national cemeteries, 3 for stationery, 36 leases, charter party.

FORAGE, STRAW, AND FUEL.

The issues of forage and straw during the fiscal year were as follows: orn, 588,488 bushels; oats, 939,690 bushels; barley, 172,870 bushels; ay, 48,558 tons; fodder, 116 tons; straw, 3,292 tons; bran, 55,084 ıshels.

The issues of fuel during the same period were: wood, 130,786 cords; nthracite coal, 16,937 tons; bituminous coal, 15,300 tons.

ANIMALS.

The following statements show the number of horses and mules purnased in the several military departments during the fiscal year endg June 30, 1873, with their total and average cost:

Cavalry and artillery horses.

Where purchased.	Number.	Total cost.	Average.
partment of the East	43	$10,777 50	$250 63
partment of the South	94	13,630 00	145 00
partment of Texas	370	49,010 00	132 46
partment of the Missouri	501	63,306 30	126 36
partment of the Platte	636	82,692 00	130 02
partment of Dakota	11	1,529 00	139 00
partment of California	254	27,966 00	110 11
partment of the Columbia	15	1,725 00	115 00
pot of Washington	14	3,165 00	225 07
Total	1,938	253,800 80	....

The amount appropriated for the purchase of cavalry and artillery orses for the fiscal year was $300,000. The money not expended has een directed to be turned into the Treasury.

Mules.

Where purchased.	Number.	Total cost.	Average.
partment of the East	1	$225 00	$225 00
partment of the South	27	4,774 94	176 85
partment of Texas	246	22,953 38	93 31
partment of the Missouri	1,800	254,762 20	141 53
partment of the Platte	140	21,980 00	157 00
partment of Arizona	122	14,640 00	120 00
partment of the Columbia	27	2,295 00	85 00
pot of Washington	12	2,800 00	233 33
pot of Jeffersonville	22	3,602 50	163 75
Total	2,397	328,033 02	....

The following is a tabular statement of the sales of public anima
the different departments, showing number sold and amount reali

Departments.	Horses.		Mules.		Total.	
	No.	Amount.	No.	Amount.	No.	Am
Department of the East	21	$1,195 66	2	$127 00	23	$1,
Department of the Lakes			1	52 20	1	
Department of the South	111	6,355 24	7	373 35	118	6,
Department of the Gulf	9	630 00	4	380 00	13	1,
Department of Texas	321	10,267 28	42	1,471 45	363	11,
Department of the Missouri	225	9,735 97	84	4,223 50	309	13,
Department of the Platte	209	11,195 25	36	1,436 00	245	12,
Department of Dakota	25	2,302 90	14	620 56	39	2,
Department of California	19	1,325 50	2	128 00	21	1,
Department of Arizona	13	288 35	2	23 00	15	
Department of the Columbia	84	2,513 28	5	378 00	89	2,
Depot of Washington	14	815 00	1	100 00	15	
Total	1,051	46,624 43	200	9,313 06	1,251	55,

SUMMARY.

The following is a summary statement of the number of animals
chased, sold, died, &c., and remaining on hand during the fiscal en
June 30, 1873:

On hand, purchased, &c.	Horses.	Mules.
On hand July 1, 1872	9,729	8,758
Purchased	1,938	2,397
Taken up, &c	96	59
To be accounted for	11,763	11,214
Sold	1,051	200
Died	424	489
Lost and stolen	158	100
Total sold, died, &c	1,633	789
On hand June 30, 1873	10,130	10,425

ESTIMATES AND REQUISITIONS.

Annual estimates for regular and miscellaneous supplies requ
during the fiscal year at the various posts within the Military Divi
of the Missouri were received, and instructions given as to meth
providing the stores deemed necessary by the Quartermaster-Gener

During the fiscal year requisitions for miscellaneous supplies
received as follows, and instructions given in relation thereto:

Military Division of the Pacific
Military Division of the Missouri
Military Division of the South
Military Division of the Atlantic
Depot of Washington
Military Academy at West Point
Miscellaneous sources

Total

FIRE-EXTINGUISHERS.

At the beginning of the fiscal year the fire-extinguisher known a
Babcock was generally in use at the various military posts, and u

Iarch 1, 1873, this pattern was supplied when called for and deemed ecessary. Subsequent to that date the Champion fire-extinguisher, ıanufactured at Louisville, Ky., has been supplied at no greater cost. 'he use of the Babcock, however, has not been discontinued.

The Louisville company also manufacture an extinguisher having two ylinders, of a capacity of 150 gallons each, mounted on wheels, to be rawn by men or horses. Upon approval by the Secretary of War, one f these machines, supplied with 200 feet of hose and a force-pump, was rdered March 27, 1873, for Omaha Barracks, and one has since been rdered for Fort Brown, Texas.

Within the fiscal year fire-extinguishers have been supplied to the ɔllowing posts:

nta Fé, N. Mex., (Babcock)	8
helbyville, Ky., (Babcock)	2
adison Barracks, N. Y., (Babcock)	3
ort Mackinac, Mich., (Babcock)	1
rankfort, Ky., (Babcock)	2
ort Macon, N. C., (Babcock)	2
harleston, S. C., (Champion)	2
ittle Rock, Ark., (Champion)	3
ort Gibson, Ind. T., (Champion)	4
Total	27

WARREN COOKERS.

Reference was made in the report of last year to experiments with ıe patent cooker invented by Capt. F. P. Warren, of the English avy, the results of which had not then been fully communicated to ıis office. Since that time reports have been received from numerous fficers, some of whom speak highly of the merits of the cooker, while thers do not consider its use desirable for the Army. In view of the ifference of opinion expressed by officers the Quartermaster-General as not deemed it advisable to supply them for general use of the Army.

ARMY WAGONS.

The following is a statement of wagons, ambulances, and harness on and in the Quartermaster's Department, United States Army, as ıown by the last returns of officers received at this office:

	Serviceable.	Not serviceable.
rmy wagons	3,107	88
ring wagons	125	4
mbulances	240	7
'agon harness	23,411	633
mbulance harness	2,148	29

For several years past the Army wagons, subjected to the hard usage f the service in the West, have been made to answer requirements nly by frequent and extensive repairs. These wagons, as also the ock in store at depots, were bought during the war, and are therefore om eight to ten years old.

A careful inspection of those in store revealed the fact that the timers of most of them were so unsound, from various causes incident to ıeir age, as to be unfit for hard service upon the road.

From reports of inspection made by various officers it was found ecessary that nearly all of the wagons in use in the Military Division f the Missouri should be replaced by new ones. For this purpose the chief quartermaster of the division reported 480 new wagons nee Accordingly 100 new wagons were bought in open market in Phila phia, and 85 shipped during the spring months to the Departmen Dakota, and 14 to the Department of the Platte, leaving to be shi 381 wagons. In addition to these, and to meet the wants of the lowstone expedition, 150 new wagons were purchased at same plac open market and shipped to Fort Abercrombie, Dak. The cos these 250 wagons, purchased in open market to meet an emerge was $175 each.

By authority of the honorable Secretary of War, and after due ad tisement, a contract was made July 12, 1873, by the depot quarter ter, Philadelphia, with the lowest bidder, for 300 Army wagons $149.50 each.

With approval of the Secretary of War, the purchase of 10 sp wagons for use at various posts and stations was authorized.

YELLOWSTONE EXPEDITION.

This expedition was organized to survey the line of the North Pacific Railroad through the country from the Missouri River to Yellowstone, and westward in Montana. It entered the field in J 1872, and was supplied by the Quartermaster's Department, under rection of the local military authorities, with needed means of trans tation from stock on hand, with the exception of a number of h teams.

At the close of the season's work of 1872 the commanding office the expedition reported that the transportation equipment furnishe service with the expedition was found unfit for active operations in rugged country over which it was required to pass.

In order to facilitate the operations of the expedition during present season, the Quartermaster-General, upon approval of the Se tary of War, directed the supply of new material, or such as wa every respect as good as new.

In addition to the number found suitable and supplied from the partment of Dakota, 150 entirely new wagons were furnished Philadelphia. To complete the trains of the expedition there purchased 1,058 mules, including 36 ambulance, 12 artillery, an saddle mules. Such new harness and other articles as were neces to thoroughly equip the trains were also purchased.

EXPLORING EXPEDITIONS.

By direction of the Secretary of War the surveying expedition of the one hundredth meridian, under command of Lieut. Georg Wheeler, of the Engineer Corps, has, during the past fiscal year, supplied with forage, animals, wagons, &c., for transportation of es and its supplies, and various miscellaneous stores.

Sale was authorized to civilian employés, at cost price to Governm of such quartermaster's stores as they required.

Sales of partially unserviceable animals and quartermaster's st were also, by approval of the Secretary of War, made to Prof. F Hayden, United States geologist, for the continuation of his geolog and geographical explorations in Colorado Territory.

Every facility consistent with laws and orders has, by authorit the War Department, been afforded by this Department to the exp tion under direction of Mr. Archibald Campbell, American commissi for the survey of the northwestern boundary.

IRON-HUB WHEELS.

The attention of this Office having been directed to the early decay the Army wagons in the dry climates of Arizona and New Mexico, incipally owing to the shrinkage of timbers, the Quartermaster-Genal, after correspondence with the officers of the Military Division of e Pacific, ordered the parts of 100 wagons to be gotten out in the ugh at Philadelphia, and shipped to Arizona; these to be accomnied by iron hubs for the wheels.

In the early part of this year instructions were issued for shipment to exas, New Mexico, Dakota, and Arizona of sample sets of certain tents of metal-hub wheels adopted in general mercantile use.

It was directed that the comparative merits of these wheels be tested the use of one front and one hind patent hub wheel upon one side of e same wagon, with one front and one hind wheel of the regulation ttern on the other side; the results to be carefully noted and reported this Office. No reports have yet been received.

ORSESHOES AND SHOEING MATERIAL, SMITHS' AND SADDLERS' TOOLS.

By General Orders No. 2, War Department, Adjutant-General's Office, nuary 2, 1873, the saddlers' tools and materials, the smiths' tools and aterials, the tool-bags, and the mountain-howitzer forges, with their ols and materials, prescribed by General Orders No. 60, War Departent, Adjutant-General's Office, June 29, 1872, for use of the cavalry rvice, were directed to be supplied by the Ordnance Department. ursuant to this order the transfer of large quantities of these stores s been made to the Ordnance Department.

THE EPIZOOTIC.

During the fall of 1872, and extending into the spring of 1873, a orse epidemic, commonly called the epizootic catarrh, swept over the untry, causing great destruction of animals.

The officers of this department adopted such remedies as their judgent and experience suggested, with, in general, the most successful sults.

The chief quartermaster Department of the East published, in a cirlar dated October 28, 1872, a method for the treatment of the disease, ith certain prescriptions for the cure of severe cases. Reports show at in many cases throughout the various military departments the sease yielded to this treatment.

In the month of January, 1873, the Secretary of War communicated e following simple preventive and remedy for the disease, which was ade known at once to all officers of this department, with directions r its communication to all officers serving under their direction, havg charge of public animals: "One teaspoonful chlorate of potash, vice a day to four horses; put in a pail of water, and let each horse ink its proportion." The losses of public animals by this disease, so r as reported to this Office, were very light. Much inconvenience was, owever, occasioned to the transportation and cavalry service during e prevalence of the disease.

CAVALRY REMOUNTS.

In addition to the horses purchased as needed from time to time, a ecial remount of the several regiments of cavalry was authorized to e made early this spring. For this purpose purchase was authorized

of 1,200 horses, to be apportioned among the regiments as follo
First Cavalry, none; Second Cavalry, 175; Third Cavalry, no
Fourth Cavalry, 175; Fifth Cavalry, 150; Sixth Cavalry, 100; Seve
Cavalry, 150; Eighth Cavalry, 150; Ninth Cavalry, 150; Tenth C
alry, 150.

The animals for the Second, Sixth, Seventh, and Tenth Regime
were ordered purchased in Missouri, Iowa, and adjoining States; th
for the Fifth Regiment in California; those for the Fourth Regiment
Texas; those for the Eighth Regiment in Leavenworth and vicinity a
Colorado Territory; and those for the Ninth Regiment at points to
designated by the commanding general, Department of Texas.

The purchases were ordered made by boards of officers, constitut
by the department commanders. Each board was to have upon i
quartermaster and one or two officers of the regiment for which
horses were required; the boards to move from place to place, a
after proper advertisement by posters, making known the days
which they would be at certain places, to purchase, not from "midd
men," but from "farmers and stock-raisers," the best horses presen
in lots from one upward.

APPROPRIATION FOR REGULAR SUPPLIES.

The regular appropriation under this heading was	$4,000,00
The deficiency appropriation	310,00
Total	4,310,00

Information as to remittances made, and their classification, will
found in the annual report of the finance branch of this Office.

At the close of the fiscal year there remained in the Treasury
$1,685.55 to the credit of the appropriation. This balance, as also
funds then in hands of officers, will not be sufficient to meet the indebt
ness of the year, and a deficiency appropriation will be necessary.

BARRACKS AND QUARTERS.

MILITARY BUILDINGS.

During the year the construction of one hundred and twenty
buildings has been authorized. They include barracks, officers' quart
stables, store-houses, guard-houses, &c. They are at military posts
the States of California, Louisiana, Florida, Michigan, South Caroli
Tennessee, Texas, Kansas, New York, Maryland, North Carolina, Oreg
Nevada, Kentucky, Georgia, Nebraska, Pennsylvania, Minnesota, Ma
Iowa, Connecticut, Virginia, and in Territories of Dakota, New Mexi
Montana, Washington, Arizona, Utah, Colorado, Indian Territory, a
District of Columbia. Their estimated cost was $245,544.87.

WHARVES.

Authority has been given for the construction and repair of whar
to the amount of $18,111.32.

REPAIRS.

Upon special estimates submitted to the Secretary of War, author
has been given to make repairs, alterations, &c., of public buildin
and for construction and repairs of cisterns, &c., at the various milit
posts to the amount of $228,796.49.

NEW POSTS.

Two new posts have been authorized during the year in Arizona—one or near Tucson, and one near the mouth of the San Carlos River. ese posts are for four companies each.

The estimated cost of these posts, as originally reported, was $53,000 r the former, and $54,609 for the latter; "$35,000 is the extreme sum ich the Secretary of War authorizes to be expended for both. Labor troops to be employed when possible." The former post is reported being on the Rillito, about seven miles from Tucson, and is known as Camp Lowell."

The hutting of one company of infantry at Otter Crossing, Northern cific Railroad, having been determined by the department commander necessary and urgent, he directed the expenditure of $2,675 for the ork; the season being advanced, would not admit of first submitting e subject to the War Department.

The division commander on investigation, considering the work "very cessary," directed that it be continued. Action and expenditure apoved by the Secretary of War in October last, and funds remitted.

Sheltering for officers and men at James River Crossing, Northern Paic Railroad, subsequently known as Fort Cross, and more recently as rt Seward, was authorized in letter of division to department comander July 8, 1872. Remittance of $30,000 for this work was authord by the Secretary of War. The construction of a provisionary hostal has since been authorized.

The division commander also, in a letter of July 10, 1872, to the dertment commander, authorized expenditure of $20,000 for shelter of n and officers at Tulerosa, N. Mex.; and the Secretary of War s since authorized remittance of the funds.

Reference was made in last annual report to the construction of posts the Northern Pacific Railroad crossing of the Missouri River and at eaver City, Utah. During the past fiscal year these posts have been rtially constructed. That at Northern Pacific Railroad crossing of the issouri is known as Fort Abraham Lincoln.

ecapitulation of the expenditures specially authorized for construction of new buildings at established posts; construction and repair of cisterns, miscellaneous repairs to buildings, construction of new posts and hutting troops, and how distributed.

partment of California	$48,640 96
partment of Texas	44,143 19
partment of the East	75,207 27
partment of the South	15,810 79
partment of the Platte	51,012 51
partment of the Gulf	42,360 66
partment of the Columbia	9,490 00
partment of Arizona	62,707 30
partment of the Missouri	151,795 04
partment of Dakota	78,120 96
partment of the Lakes	839 00
Total	580,127 68

Of this sum, constructions, repairs, &c., to the amount of $122,060, ough approved by the War Department during the fiscal year, were t to be commenced, nor any expenditures incurred therefor, until ter July 1, 1873, when the new appropriation became available.

The Secretary of War, on January 14, 1873, in a communication to the House of Representatives, recommended an appropriation of $100 by Congress for rebuilding the post of Fort Griffin, Texas, in a ma suitable for the accommodation of six companies. No appropria was made by Congress.

HOSPITAL BUILDINGS.

During the fiscal year, construction, repairs to, and alteration military hospital buildings throughout the country have been aut ized by the Secretary of War at a cost of $77,754.70; work to amount of $10,916.75, though approved during the year, and inclu in the $77,754.70, was not to be commenced, nor any expenditure in red, until the beginning of the new year.

The following list gives the locality of the hospitals and amoun expenditure authorized at each:

Fort Abercrombie, Dak., $82.24; Angel Island, Cal., $190; Fort rancas, Fla., $1,163; Fort Brady, Mich., $350; Baton Rouge, $4,689.50; Beale's Springs, Ariz., $4,500; Camp Bidwell, Cal., $ Camp Baker, Cal., $306.30; Fort Boise, Idaho, $843.83; Fort Con Tex., $1,800; Cheyenne Agency, Dak., $500; Fort Duncan, Tex., $2, Fort Ellis, Mont., $300; Fort Foote, Md., $215.17; Fort Gratiot, M $701.85; Fort Gibson, Ind. T., $136.80; Fort Hamilton, New York bor, $580; Fort Hays, Kans., $2,000; Jackson, Miss., $550; Jack Barracks, La., $1,157.50; Key West, Fla., $4,490.10; Lower B Agency, Dak., $420; Little Rock, Ark., $1,192.40; Fort Larned, Ka $189.14; Fort Leavenworth, Kans., $580; Fort Laramie, Wyo., $8, Fort Lyon, Colo., $150; Fort McHenry, Md., $250; Fort Mackinac, M $30; Camp Mojave, Ariz., $4,000; McPherson Barracks, Ga., $ Fort Monroe, Va., $250; Fort McIntosh, Tex., $198.50; Fort Niag N. Y., $150; Newport Barracks, Ky., $7,000; Omaha Barracks, $205.37; Fort Porter, N. Y., $481; Presidio, Cal., $1,226.75; Fort Russell, Wyo., $600; Fort Ripley, Minn., $1,000; Fort Riley, K $134; Camp Supply, Ind. T., $4,824; Fort Snelling, Minn., $550 Fort Sullivan, Me., $246; Savannah, Ga., $1,870; Fort Sully, $748; Fort Seward, Dak., $4,000; Fort Selden, N. Mex., $200; Shaw, Mont., $350; Fort Sanders, Wyo., $350; Thomas's Barra Ala., $500; Fort Union, N. Mex., $1,370.09; Fort Wadsworth, York Harbor, $146; Fort Wingate, N. Mex., $3,818.16; Fort Wa Mich., $1,793.50; Fort Wood, New York Harbor, $75; Yerba B Island, Cal., $1,200; Yuma Fort, Cal., $2,000.

The appropriation for construction and repair of hospitals was $100.

At the close of the fiscal year there remained in the Treasury to credit of appropriation for hospitals for 1872–'73, $15,473.49.

DEPOT BUILDINGS AT SAN ANTONIO, TEX.

In the act making appropriations for sundry civil expenses of Government for the fiscal year ending June 30, 1874, and for other poses, approved March 3, 1873, provision is made for the construc at this station of depot buildings, including shops, offices, and com sary and quartermaster's store-room, and appropriates $100,000 t for. The Secretary of War, on March 24, 1873, directed the Qua master-General to "allow no action to be taken by any officer of Quartermaster's Department looking to the erection of these d buildings until further instructions." A copy of this order was municated to the Department Quartermaster.

BUILDINGS, ETC., SOLD.

The sale of ninety buildings of various dimensions, together with ices, remnants of old iron bridges, &c., located at different places roughout the country, has been authorized.

BUILDINGS TRANSFERRED.

Seven buildings at Clark's Point, Mass., and thirteen at Fort Washgton, Md., heretofore in charge of the Quartermaster's Department, ve, by direction of the Secretary of War, been transferred to the stody of the Engineer Department.

The property known as the "State arsenal," at Savannah, Ga., held the United States Government since the occupation of that city by e army of General Sherman, has, by direction of the War Departent, been restored to that State.

LAND TO BE SURRENDERED, SOLD, ETC.

On October 31, 1863, February 12, 1864, and February 28, 1865, cern lands were conveyed by deed to the United States, in Wilmington, s Angelos County, Cal., in consideration of $1.

A large number of buildings were erected thereon by the United ates during the war, known as Drum Barracks and Wilmington pot.

The United States not actually requiring the further use of the emises, Congress, under act approved February 25, 1873, directed the cretary of War to reconvey said grounds to the original parties, er the removal or sale of the buildings, "as shall be most for the inests of the United States." Orders for the sale of the buildings ve been issued.

In 1871, certain persons conveyed to the United States by a deed, ronounced valid by the Department of Justice,) certain lands in naha, Neb., in consideration of the payment of $10.

It was at that time contemplated to construct permanent quarters d offices for department headquarters. Legislation since has prented the construction of the buildings, and it has also been decided at the site is not a convenient one.

The parties who deeded the land have made application to have it stored to them, and reconveyance has been recommended by the eutenant-General of the Army and this office. The subject is awaitg the final decision of the Secretary of War.

On July 25, 1828, and January 13, 1829, the United States purchased Joseph and Elmira Houlton certain lands at Houlton, county of ashington, State of Maine, for $639.21. The United States having further use of the eighteen buildings which had been subsequently ected thereon, the Secretary of War directed that they be sold at blic auction. The sale was made July 12, 1871, and $345.25 realized erefrom.

By act of Congress approved March 14, 1872, the Secretary of War s authorized to sell and convey this land, if in his opinion it should for the interests of the Government to sell the same, reserving to e county of Aroostook so much thereof as was found to be necessary the monuments therein erected, by the consent of the War Departent, to establish a meridian line, which shall be granted to said county, ovided that the land so granted shall not exceed in value the sum of 00. By direction of the War Department the division quartermaster s instructed to advertise and sell so much of this land as was con-

templated by the act of Congress, and to take proper steps with a
to the transfer of the remainder to the county of Aroostook. Th
contemplated to be sold, containing 24 acres 74½ rods, was duly a
tised by posters, May 19, 1873, and on June 19, 1873, was sol
$350 to Silas T. Plummer and Lewis B. Johnson.

The value of the land reserved from sale being greatly withi
limit prescribed by the act of Congress, a deed conveying the la
the inhabitants of Aroostook County is now before the War De
ment for proper action.

The Quartermaster-General, in his last annual report, represent
the War Department the unfortunate condition of the tenure o
military posts on the frontier in Texas, and recommended that t
tention of Congress be called to this subject, and that the Secreta
War be clothed with authority to purchase the sites of such mil
posts as are already, or as may be within a few years, establish
Texas, at prices which he may determine to be just and reaso
considering the value of the land before its occupation by the U
States.

Congress, by act approved March 3, 1873, authorized the Secreta
War to purchase, at a fair price, (to be determined by a board of
officers to be appointed by him, whose report shall be subject to th
proval or rejection of the President, and the confirmation there
Congress,) such lands in the State of Texas as may be necessary f
use of the United States for forts and military posts. (For full te
act see 17th Statutes, page 614.)

Since the close of the fiscal year a board of officers, as directed b
act, has been appointed by the Secretary of War, and copies
papers in possession of this office, containing useful information re
to the sites occupied, have been furnished to be laid before the boa

ARTESIAN WELLS.

The sinking of the artesian well at Madison Barracks, N. Y.,
authority given in October, 1870, has, from recent reports, proved
cess. It affords an unfailing supply of good water, winter and sun
Its cost was $550, depth 99 feet. The sinking of two more of
depth, at a cost of $1,100, has been authorized.

Congress, on June 8, 1872, authorized the Secretary of War t
pend the sum of $10,000, or so much thereof as may be necessar
the purpose of sinking an artesian well on the Fort D. A. Russell
tary reservation, in the Territory of Wyoming.

The Secretary of War having directed, in August last, that ste
taken at once for the sinking of the well, and authorized the remit
of funds, the requisite instructions were accordingly issued to the
ion quartermaster. After boring through gravel, sand, clay,
stone, boulders and rock to the depth of 410 feet, (76 feet having
in,) and after expending $8,195.38 thereon without any promise o
cess, work was abandoned. With the remainder of the money a se
well was commenced and had been sunk (up to May 2, 1873) t
depth of 275 feet. To continue the work the Secretary of War au
ized a remittance of an additional $3,000.

POST CEMETERIES.

Authority has been granted by the Secretary of War, and instru
given by this office during the fiscal year, for erection of head-boar
the post cemetery at Fort Duncan, Tex.; board-fence for post

ry at Fort Winnebago, Wis., and completion of the adobe wall inclos- g post cemetery at Fort Bliss, Tex.

In August last the Secretary of War directed the Quartermaster- eneral to make arrangements for the removal of the remains of such ldiers and their families as were buried in the cemeteries at the aban- ned posts of Fort Arbuckle and Washita, to the national cemetery at rt Gibson, Ind. T. Instructions were accordingly issued to the divis- n quartermaster.

From the report received it appears there were one hundred and irty-one graves at these posts and in their neighborhood. All of the aves were represented as being in bad condition, very few having any arks or stakes.

A contract was made in October last with the lowest responsible dder to perform the work of disinterring, removing, and re-interring e bodies at the rate of $9.40 for each body, whole job to be completed November 25, 1872.

In March, 1872, the War Department authorized construction of stone alls around the post cemeteries at Fort Kearney, Nebr., and Fort dgwick, Colo., but it afterward appearing that the cost thereof would some $30,000, it was deemed more advisable to remove the remains deceased soldiers and their families therein interred to some more rmanent post, and the Secretary of War directed their removal, and -interment at the cemetery at Fort McPherson, Nebr., distant about e hundred miles. The estimated cost of the work was $3,000, trans- rtation being furnished by the United States.

The data on file in this office as to location of post cemeteries through- t the country, number of graves, names of deceased soldiers and hers therein interred, &c., being of a very incomplete character, chief artermasters have been requested during the year to supply the re- ired information.

Reports covering one hundred and thirteen such cemeteries have thus r been received, and when all others have been heard from it is con- mplated to have this important information recorded in a proper book record for reference, &c.

POSTS ABANDONED.

During the year the War Department authorized the abandonment of e posts of Taylor Barracks, Ky., old camps Grant, Lowell, and Crit- nden, Ariz., Fort Phœnix, Mass., and Fort McRae, N. Mex.

FIRES.

Seven fires have been reported during the fiscal year.

The barracks at Fort Phœnix, near New Bedford, Mass., were de- royed on August 27, 1872.

Two mills at Fort Buford, Dak., were destroyed November 5, 1872.

One set of company quarters, 100 feet by 15 feet, with kitchens, 20 et by 15 feet, at Fort Saint Philip, La., were destroyed November 15, 72.

One set of officers' quarters at Fort Stockton, Tex., were destroyed, gether with a few articles of quartermaster's stores, on November 17, 72.

A fire occurred in one of the two-story brick barracks, 182 feet by 34 et by 30 feet, at Baton Rouge, La., November 18, 1872, destroying all e wood-work, &c. Repair of this building has since been authorized.

On January 28, 1873, a fire occurred at the Saint Louis arsenal-de Mo., which completely destroyed the commissary and quartermast store-house, together with property belonging to the Quartermast Department therein stored.

The commanding officer's quarters at Camp Halleck, Nebr., w destroyed by fire June 23, 1873. The adjoining quarters were ba damaged from the intense heat.

RESERVATIONS.

Seven reservations have been declared by the President during year, viz: Fort Whipple, Va., July 26, 1872; Camp Harney, Or December 2, 1872; Sibley Island, Dak., February 11, 1873; Fort Al ham Lincoln, Dak., February 11, 1873; Fort Boisé, Idaho, Apri 1873; Beaver City, Utah, May 12, 1873; certain timber-lands in Ariz Territory, June 20, 1873.

PUBLICATIONS.

In 1872 the Secretary of War authorized the publication, for infor tion of officers of the Army, of "Outline-descriptions of United St military posts and stations," compiled from information furnished division commanders and quartermasters. The work gives, in a succ form, location of posts; number, description, and condition of buildi nearest supply-depot; resources; communications; description of c try, &c. The information therein contained is valuable to officers an this office. Military bureau officers, department and division comm ers, regular quartermasters, and each arsenal and garrisoned post h been provided with a copy thereof.

The Secretary of War, on recommendation of this office, authori to be published, for the information of officers on duty in the Qua master's Department, certain extracts from Creecy's Encyclopedia of C Engineering, relative to the durability of Pisé walls, and the mod building in Pisé, together with the descriptive notes on the manne constructing concrete walls, furnished by the acting assistant qua master at Sidney Barracks, Nebr., where a building for laundres quarters was constructed, last summer, of this material. On perso inspection by the Lieutenant-General of the Army, this mode of struction was strongly recommended by that officer for barracks quarters west of the Missouri River. It is believed one or the othe these methods of building is applicable at nearly every military pos station on the frontier, and that either is cheaper than adobes. A c of these extracts has been furnished to all officers of this Departm

APPROPRIATION FOR BARRACKS AND QUARTERS.

The amount of the regular appropriation for barracks and quarters was	$1,250,00
For amount of the deficiency appropriation	250,0
Total	1,500,0

Information as to remittances made and their classification wil found in annual report of the finance branch of this office.

At the close of the fiscal year $31,488.93 of the appropriation for racks and quarters remained undrawn at the Treasury. This bala as also funds then in hands of officers, will be absorbed in paymen outstanding indebtedness for materials, rents, hire of mechanics, &c., and, in addition, a deficiency appropriation will probably be ne sary to meet the expenses of the year.

CLAIMS.

The following statements exhibit the number of transportation claims nd accounts, and claims under act of July 4, 1864, and miscellaneous laims on hand, July 1, 1872, received and acted upon during the year, nd remaining on hand June 30, 1873:

tatement of accounts and claims in the transportation division, Quartermaster-General's Office, for the fiscal year ending June 30, 1873.

	No.	Value.	No.	Value.
umber of accounts and claims on hand July 1, 1872	156	$277, 644 45		
umber of accounts received during the fiscal year	624	1, 299, 290 39		
umber of claims received during the fiscal year	458	387, 331 69		
otal number of accounts and claims on hand and received			1, 238	$1, 964, 266 53
umber of accounts referred for settlement during fiscal year	571	814, 622 56		
umber of claims referred for settlement during fiscal year	373	214, 305 06		
umber of claims transferred to other branches	9	512 89		
umber of claims rejected during the fiscal year	65	318, 429 55		
umber of claims suspended at close of fiscal year	8	3, 002 75		
otal number of accounts and claims referred, rejected, and suspended			1, 026	1, 350, 872 81
umber of accounts awaiting action July 1, 1873	68	471, 198 80		
umber of claims awaiting action July 1, 1873	144	142, 194 92		
Total number and amount	212	613, 393 72	212	613, 393 72

tatement of claims under act of July 4, 1864, *chapter* 240, *in the Quartermaster-General's Office, for the fiscal year ending June* 30, 1873.

	No.	Amount.	No.	Amount.
n hand July 1, 1872, which had previously been suspended or had received no decisive action	10, 351	$6, 857, 006 56		
eceived during the year	1, 963	2, 024, 725 16		
otal number on hand and received			12, 314	$8, 881, 731 72
Decisive action taken during the year:				
pproved	642	296, 775 90		
eductions on claims approved		318, 436 52		
ejected	325	443, 689 75		
otal upon which final action has been taken			967	1, 058, 902 17
emaining on hand June 30, 1873			11, 347	7, 822, 829 55

tatement of miscellaneous claims in the Quartermaster-General's Office for the fiscal year ending June 30, 1873.

	No.	Amount.	No.	Amount.
On hand July 1, 1872, which had previously been suspended or had received no decisive action	14, 485	$7, 558, 791 93		
eceived during the year	3, 375	785, 480 63		
otal number on hand and received			17, 860	$8, 344, 272 56
Decisive action taken during the year:				
pproved	3, 261	654, 389 15		
eductions on claims approved		38, 462 72		
ejected	553	176, 299 82		
otal upon which final action has been taken			3, 814	869, 151 69
emaining on hand June 30, 1873			14, 046	7, 475, 120 87

NOTE.—The examination of the claims filed during previous years has been continued, and all the ases presented during the year have received preliminary examination.

The following is a statement of the public funds in my posses during the fiscal year:

On hand July 1, 1872	
Received from officers during the year	$674, 35
Received from the Treasury Department during the year	162, 26
Received from sales of railway property and other sources	76, 43
Total received during the year	913, 05
Disbursed during the year	$70, 18
Transferred to other officers during the year	766, 37
Deposited to the credit of the Treasurer of the United States during the year	76, 49
Remaining on hand June 30, 1873	
Total disbursed, &c., during the year	913, 05

Submitted herewith are certain abstracts and statements, to wh attention is invited, for information in detail relative to the several jects of this report. They are as follows:

A.—Statement of the indebtedness to the United States of south railroad companies on account of purchase of railway material for fiscal year.

B.—Statement of all troops and stores transported under directio the Quartermaster's Department during the fiscal year.

C.—Abstract of contracts made by officers of the Quartermast Department for wagon transportation during the fiscal year.

D.—Abstract of contracts made by officers of the Quartermast Department for water transportation.

E.—Statement of vessels chartered and employed by officers of Quartermaster's Department during the fiscal year.

F.—Statement of vessels owned or purchased by the Quartermast Department during the fiscal year.

Very respectfully, your obedient servant,

M. I. LUDINGTON,
Quartermaster, U. S.

Brig. Gen. M. C. MEIGS,
Quartermaster-General, U. S. A.

A.—Statement of the indebtedness of certain railway companies for railway material and rolling-stock purchased under provisions of Executive orders of August 8 and October 14, 1865, and orders of the Quartermaster-General, U. S. A., for the fiscal year ending June 30, 1873.

Number.	Name of company indebted to the United States, July 1, 1872.	Value of property sold.	Interest on same to June 30, 1873.	Total expenses to June 30, 1873.	Total principal, interest, and expenses to June 30, 1873.	Balance of principal unpaid, July 1, 1872.	Balance of interest unpaid July 1, 1872.	Expenses unpaid July 1, 1872.	Total principal, interest, and expenses unpaid, July 1, 1872.
1	Alexandria, Loudoun and Hampshire	$62,592 96	$20,853 02	$175 73	$83,621 71	$9,335 89	$115 75	....	$9,451 64
2	Alabama and Florida, for repairs	27,109 04	....	....	27,109 04	11,380 81	....	....	11,380 81
3	Alabama and Chattanooga	30,248 52	13,608 04	543 03	44,399 59	17,881 45	2,185 07	$419 05	20,485 57
4	East Tennessee and Georgia	366,183 02	160,986 77	2,322 73	529,492 52	350,447 58	28,602 72	....	379,051 30
5	East Tennessee and Virginia	265,655 65	116,906 07	2,322 73	384,884 45	249,228 81	5,258 94	....	254,487 75
6	Edgefield and Kentucky	114,772 86	64,207 96	2,345 00	181,325 82	114,772 86	53,963 95	1,745 00	170,481 81
7	Indianola	20,000 00	....	....	20,000 00	15,000 00	....	....	15,000 00
8	Knoxville and Kentucky	12,335 63	4,965 75	154 27	17,455 65	9,544 89	574 47	....	10,119 36
9	McMinnville and Manchester	46,508 54	24,457 27	3,375 20	74,341 01	46,508 54	21,058 42	2,775 20	70,342 16
10	Mississippi, Gainesville and Tuscaloosa	33,476 39	18,825 43	67 75	52,369 57	33,476 39	6,593 33	....	40,069 72
11	Mobile and Ohio	505,143 70	85,687 33	....	590,831 03	74,269 05	12,832 83	....	87,101 88
12	Mississippi and Tennessee	127,750 52	30,510 41	....	158,260 93	7,861 15	64 46	....	7,925 61
13	Memphis, Clarksville and Louisville	336,932 36	187,642 03	2,445 00	527,019 39	336,932 36	117,631 01	50 00	454,613 37
14	Memphis and Little Rock	153,673 89	52,252 13	75 40	206,001 42	76,769 92	4,867 19	....	81,637 11
15	Nashville and Chattanooga	1,566,551 73	615,631 70	2,234 12	2,184,417 55	1,474,206 55	361,368 34	....	1,835,574 89
16	Nashville and Northwestern	525,400 26	297,713 31	2,234 11	825,347 68	521,192 58	206,980 37	....	728,172 95
17	Nashville and Decatur	405,193 92	144,407 99	302 25	549,904 26	280,820 10	60,801 73	274 35	341,896 18
18	Pacific Railroad of Missouri	125,433 65	....	....	125,433 65	4,611 94	....	....	4,611 94
19	Southwest Branch Pacific Railroad of Missouri	57,115 24	....	....	57,115 24	56,115 24	....	....	56,115 24
20	Selma, Rome and Dalton	183,276 49	85,499 45	53 95	268,829 89	128,540 37	1,593 90	....	130,134 27
	Total	4,965,354 37	1,924,154 66	18,651 37	6,908,160 40	3,818,896 48	884,493 48	5,263 60	4,708,653 56

A.—*Statement of the indebtedness of certain railway companies for railway material and rolling-stock purchased, &c.*—Continued.

Number.	Name of company indebted to the United States, July 1, 1872.	Interest and expenses for the year ending June 30, 1873.	Total to June 30, 1873.	Increase of the debt during the year ending June 30, 1873.	Decrease of the debt during the year ending June 30, 1873.	Total payments to July 1, 1872.	Total payments made during the year ending June 30, 1873.	Total payments made to June 30, 1873.
1	Alexandria, Loudoun and Hampshire	$615 89	$10, 067 53		$2, 638 11	$73, 554 18	$3, 254 00	$76, 808 18
2	Alabama and Florida, for repairs		11, 380 81		11, 380 81	15, 728 23	11, 380 81	27, 109 04
3	Alabama and Chattanooga	1, 140 73	21, 626 30		16, 505 55	22, 773 29	17, 616 28	40, 419 57
4	East Tennessee and Georgia		379, 051 30		7, 035 97	150. 441 22	7, 035 97	157, 477 19
5	East Tennessee and Virginia		254, 487 75		5, 838 49	130, 396 70	5. 838 49	136, 235 19
6	Edgefield and Kentucky	8, 978 42	179, 460 23	$8, 978 42		1, 865 59		1, 865 59
7	Indianola		15, 000 00		15, 000 00	5, 000 00	15, 000 00	20, 000 00
8	Knoxville and Kentucky	696 89	10, 816 25	696 89		6, 639 40		6, 639 40
9	McMinnville and Manchester	3, 995 10	74, 337 26	3, 995 10		3 75		3 75
10	Mississippi, Gainesville and Tuscaloosa	2, 443 76	42, 513 48	2, 443 76		9, 856 09		9, 856 09
11	Mobile and Ohio	5, 421 64	92, 523 52	5, 400 17		498, 307 51	21 47	498, 328 98
12	Mississippi and Tennessee	302 60	8, 228 21		7, 925 61	150, 032 72	8, 228 21	158, 260 93
13	Memphis, Clarksville, and Louisville	25, 196 04	479, 809 41	15, 180 77		47, 209 98	10, 015 27	57, 225 25
14	Memphis and Little Rock	5, 604 18	87, 241 29	5, 604 18		118, 760 13		118, 760 13
15	Nashville and Chattanooga		1, 835, 574 89		11, 974 76	348, 842 66	11, 974 76	360, 817 42
16	Nashville and Northwestern	38, 046 93	766, 219 88	38, 034 73		59, 127 70	12 20	59, 139 90
17	Nashville and Decatur		341, 896 18		36, 087 55	208, 008 08	36, 087 55	244, 095 63
18	Pacific Railroad of Missouri		4, 611 94		4, 611 94	120, 821 71	4, 611 94	125, 433 65
19	Southwest Branch Pacific Railroad of Missouri		56, 115 24		14, 258 99	1, 000 00	14, 258 99	15, 258 99
20	Selma, Rome and Dalton	9, 131 77	139, 266 04	3, 194 27		129, 563 85	5, 937 50	135, 501 35
	Total	101, 573 95	4, 810, 227 51	83, 528 29	133, 257 78	2, 097, 932 79	151, 303 44	2, 249, 236 23

K.—*Statement of indebtedness of certain railway companies for railway material and rolling-stock purchased, &c.*—Continued.

Numbers.	Name of company indebted to the United States July 1, 1872.	Balance of interest unpaid July 1, 1873.	Expenses unpaid July 1, 1873.	Balance principal unpaid July 1, 1873.	Total principal, interest, and expenses unpaid July 1, 1873.	Terms of payment—Remarks.
1	Alexandria, Loudoun and Hampshire	$23 08		$6, 790 45	$6, 813 53	Due June 30, 1873, $45,000. First-mortgage bonds deposited as collaterals.
2	Alabama and Florida, for repairs					Debt discharged January 8, 1873.
3	Alabama and Chattanooga	46 41		3, 933 61	3, 980 02	Due April 30, 1871. Postal earnings to September 30, 1873, will more than liquidate the debt.
4	East Tennessee and Georgia	21, 567 75		350, 447 58	372, 015 33	Companies consolidated. Debts compromised for $195,000; $5,000 cash, balance payable, half in 10 and half in 15 years from January 1, 1872, with 4 per cent. interest.
5	East Tennessee and Virginia			248, 649 26	248, 649 26	
6	Edgefield and Kentucky	62, 342 37	$2, 345 00	114, 772 86	179, 460 23	Due April 30, 1871.
7	Indianola					Debt discharged May 24, 1873.
8	Knoxville and Kentucky	1, 271 36		9, 544 89	10, 816 25	Due August 30, 1869. Suit pending.
9	McMinnville and Manchester	24, 453 52	3, 375 20	46, 508 54	74, 337 26	Due July 1, 1869. Suit pending.
10	Mississippi, Gainesville and Tuscaloosa	9, 037 09		33, 476 39	42, 513 48	Due August 31, 1869. Company bankrupt.
11	Mobile and Ohio	18, 233 00		74, 269 05	92, 502 05	Due July 31, 1871.
12	Mississippi and Tennessee					Debt discharged May 31, 1873.
13	Memphis, Clarksville and Louisville	132, 861 78		336, 932 36	469, 794 14	Due October 31, 1869.
14	Memphis and Little Rock	10, 471 37		76, 769 92	87, 241 29	Interest and $1,000 payable monthly in money. Postal and transportation service to be credited.
15	Nashville and Chattanooga	349, 393 58		1, 474, 206 55	1, 823, 600 13	Compromised for $1,000,000; payable, half in 10 and half in 20 years from June 1, 1871, with 4 per cent. interest.
16	Nashville and Northwestern	245, 015 10		521, 192 58	766, 207 68	Due December 30, 1870. Suit pending.
17	Nashville and Decatur	24, 988 53		280, 820 10	305, 808 63	Compromised for $70,000; $6,000 cash, balance in 10 years from July 1, 1872, with 5 per cent. interest.
18	Pacific Railroad of Missouri					Debt discharged July 12, 1873.
19	Southwest Branch Pacific Railroad of Missouri.			41, 856 25	41, 856 25	Payable in transportation; half to be applied.
20	Selma, Rome and Dalton	8, 489 07		124, 839 47	133, 328 54	$2,000 payable monthly in money. Postal and Government transportation to be credited.
	Total	908, 194 01	5, 720 20	3, 745, 009 86	4, 658, 924 07	

The following-named railroad companies have discharged their indebtedness to the United States.

Number.	Name of company.	Value of property sold.	Interest on same to June 30, 1873.	Total expenses to June 30, 1873.	Total principal, interest, and expenses to June 30, 1873.	Total payments made to June 30, 1873.	Total principal, interest, and expenses unpaid to July 1, 1873.	Remarks.
1	Richmond, Fredericksburgh and Potomac	$7,449 27	....	....	$7,449 27	$7,449 27	....	Debt discharged January 1, 1866.
2	Georgia Railroad and Banking Company	11,935 05	....	....	11,935 05	11,935 05	....	Debt discharged January 12, 1866.
3	Southwestern	46,159 89	....	....	46,159 89	46,159 89	....	Debt discharged May 4, 1866.
4	Macon and Western	83,638 15	....	....	83,638 15	83,638 15	....	Debt discharged November 24, 1866.
5	South Carolina	23,458 50	$1,646 76	....	25,105 26	25,105 26	....	Debt discharged January 31, 1867.
6	Muscogee	5,244 20	424 57	....	5,668 77	5,668 77	....	Debt discharged May 15, 1867.
7	Petersburgh	65,000 00	3,633 60	....	68,633 60	68,633 60	....	Debt discharged August 23, 1867.
8	Memphis and Charleston	547,494 09	30,889 64	....	578,383 73	578,383 73	....	Debt discharged October 16, 1867.
9	Mobile and Great Northern	14,637 73	1,192 55	....	15,830 28	15,830 28	....	Debt discharged October 31, 1867.
10	New Orleans, Jackson and Great Northern	200,865 58	15,656 91	....	216,522 49	216,522 49	....	Debt discharged February 29, 1868.
11	Mississippi Central	78,460 00	6,368 56	....	84,828 56	84,828 56	....	Debt discharged April 11, 1868.
12	Virginia and Tennessee	102,880 00	14,371 05	....	117,251 05	117,251 05	....	Debt discharged April 16, 1868.
13	Montgomery and West Point	38,559 66	3,324 93	....	41,884 59	41,884 59	....	Debt discharged July 16, 1868.
14	Virginia Central	70,000 00	10,364 66	....	80,364 66	80,364 66	....	Debt discharged July 21, 1868.
15	Rome	22,086 05	1,778 57	....	23,864 62	23,864 62	....	Debt discharged August 10, 1868.
16	Western and Atlantic	472,944 66	70,194 71	....	543,139 37	543,139 37	....	Debt discharged August 27, 1868.
17	Orange and Alexandria	118,895 74	12,497 44	....	131,393 18	131,393 18	....	Debt discharged October 3, 1868.
18	Manassas Gap	4,623 51	864 87	....	5,488 38	5,488 38	....	Debt discharged October 8, 1868.
19	Wilmington and Weldon	81,500 00	9,946 31	....	91,446 31	91,446 31	....	Debt discharged November 4, 1868.
20	Alabama and Florida	51,912 00	6,355 18	....	58,267 18	58,267 18	....	Debt discharged May 31, 1869.
21	New Orleans, Opelousas and Great Western	113,773 45	11,947 35	....	125,720 80	125,720 80	....	Debt discharged August 21, 1869.
22	Norfolk and Petersburgh	2,112 00	....	....	2,112 00	2,112 00	....	Debt discharged January 11, 1870.
23	Western North Carolina	14,269 82	2,084 08	$48 00	16,401 90	16,401 90	....	Debt discharged June 6, 1870.
24	Atlantic and North Carolina	51,453 93	11,040 15	....	62,494 08	62,494 08	....	Debt discharged July 31, 1870.
25	Macon and Brunswick	26,820 00	4,861 44	61 80	31,743 24	31,743 24	....	Debt discharged January 25, 1871.
26	Selma and Meridian	146,327 92	23,936 79	568 00	170,832 71	170,832 71	....	Debt discharged June 13, 1871.
27	San Antonio and Mexican Gulf	48,775 19	17,048 49	4 25	65,827 93	65,827 93	....	Debt discharged June 14, 1871.
28	Washington, Alexandria and Georgetown	324 06	....	....	324 06	324 06	....	Debt discharged August 16, 1871.
29	Memphis and Ohio	106,929 13	22,998 78	....	129,927 91	129,927 91	....	Debt discharged October 27, 1871.
30	New Orleans and Ohio	32,150 00	13,719 95	4,647 20	50,517 15	24,728 28	$25,788 87	Company bankrupt; account, therefore, dropped from list of indebted companies.
	Total	2,590,679 58	297,147 34	5,329 25	2,893,156 17	2,867,367 30	25,788 87	

I certify the above statement to be correct.

M. J. LUDINGTON

Kind of transportation.	PASSENGERS.			ANIMALS.				STORES.					
	Officers.	Men.	Total.	Horses.	Mules.	Cattle.	Total.	Commissary stores.	Quartermaster stores.	Ordnance stores.	Medical stores.	Miscellaneous.	Total No. of pounds.
NOT OWNED OR RUN BY GOVERNMENT.								*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	*Pounds.*	
Railroads	1, 421	31, 514	32, 935	3, 820	2, 238	64	6, 122	24, 294, 244	30, 353, 509	12, 891, 991	1, 534, 309	7, 575, 686	76, 649, 739
Steamboats, barges, &c	593	14, 632	15, 225	448	1, 443	130	2, 021	23, 467, 061	13, 537, 872	6, 699, 581	2, 508, 520	2, 191, 433	48, 404, 467
Stages	456	924	1, 380	....	......	......	....	50	1, 863	735	....	1, 000	3, 648
Wagons	99	657	756	....	......	......	....	12, 434, 357	14, 678, 445	1, 732, 598	479, 631	2, 679, 604	32, 004, 635
Total	2, 569	47, 727	50, 296	4, 268	3, 681	194	8, 143	60, 195, 712	58, 571, 689	21, 324, 905	4, 522, 460	12, 447, 723	157, 062, 489
OWNED OR RUN BY THE GOVERNMENT.													
Steamboats, barges, &c	4, 092	18, 472	22, 564	3	.....	2	5	2, 158, 288	2, 189, 537	616, 006	400, 048	1, 698, 855	7, 062, 734
Total	4, 092	18, 472	22, 564	3	......	2	5	2, 158, 288	2, 189, 537	616, 006	400, 048	1, 698, 855	7, 062, 734
Grand total	6, 661	66, 199	72, 860	4, 271	3, 681	196	8, 148	62, 354, 000	60, 761, 226	21, 940, 911	4, 922, 508	14, 146, 578	164, 125, 223

Respectfully submitted.

M. I. LUDINGTON, *Quartermaster, U. S. A.*

QUARTERMASTER-GENERAL'S OFFICE, *September*, 1873.

C.—*Abstract of contracts for wagon transportation entered into by the Quartermaster's Department received at the Office of the Quartermaster-General during the fiscal year ending June 30, 1873.*

Names of officers.	Names of contractors.	Date of contract.	Route of supply.	Rates.	Date of expiration of contract.
Lieut. Col. James A. Ekin, chief quartermaster Department of Texas, San Antonio.	Kenedy & King	May 1, 1871	From Ringgold Barracks to Fort McIntosh, Tex	$1.18 per 100 lbs. per 100 miles	June 30, 1872
Lieut. Col. S. B. Holabird, chief quartermaster Department of Texas, San Antonio.	H. B. Adams	July 1, 1872	Route No. 5. From San Antonio to the following posts, viz: Forts Clark, Concho, Davis, Duncan, Stockton, Bliss, Griffin, McIntosh, McKavett, Richardson, and Quitman.	$1.06 per 100 lbs. per 100 miles	June 30, 1873
Do	do	July 1, 1872	Route No. 7. From Corsicana, or the terminus of the Texas Central Railroad, to Forts Griffin and Richardson.	$1.86 per 100 lbs. per 100 miles	June 30, 1873
Do	Kenedy & King	July 1, 1872	Route No. 3. From Ringgold Barracks to Fort McIntosh.	$1.30 per 100 lbs. per 100 miles	June 30, 1873
Do	H. B. Adams	July 1, 1872	Route No. 4, part 2. From Victoria, Tex., or other points on the Gulf, Western Texas, and Pacific Railroad, to the public warehouses at San Antonio.	$1.08 per 100 lbs. per 100 miles	June 30, 1873
Maj. Rufus Saxton, chief quartermaster Department of the Columbia, Portland, Oreg.	Alexander Martin	June 1, 1872	From the terminus of the Oregon and California Central Railroad (Oregon branch) to Fort Klamath, Oreg.	5½ cents per lb. in July, August, September, and October, 1872, and April, May, and June, 1873, and 30 cents per lb. from November to March, 1873, inclusive, for the whole distance.	June 30, 1873
Do	William Grant	June 13, 1872	From Dalles, Oreg., to Camp Harney, Oreg	7 cents per lb. for the whole distance.	June 30, 1873
Do	do	June 8, 1872	From Dalles to Camp Warner, Oreg	8½ cents per lb. for the whole distance.	June 30, 1873
Do	Park Winans	July 5, 1872	From Wallula to Fort Colville, Wash. Ter	July, August, September, and October, 1872, and April, May, and June, 1873, $4.63 per 100 lbs.; and from November, 1872, to March, 1873, inclusive, $9.26 per 100 lbs. for the whole distance.	June 30, 1873
Do	Charles Russell	July 1, 1872	From Wallula or Umatilla, Wash. Ter., to Fort Boise, Idaho Ter.	6 cents per lb. for the whole distance.	June 30, 1873
Lieut. Col. Rufus Saxton, chief quartermaster Department of the Columbia.	J. W. Manning	Sept. 13, 1872	Transporting the United States military mails from Linkville to Fort Klamath, Oreg.	$50 per month	June 30, 1873
Capt. H. W. Janes, assistant quar-	A. J. Brown	June 1, 1872	Transporting the United States military mails	$159 per month	June 30, 1873

			may be established in Montana during the existence of the contract.		
Do	E. C. Winnie	Mar. 12, 1873	Route No. 4. From Saint Paul or Saint Cloud, Minn., or Fort Stevenson or other posts on the Missouri River, Dak. Ter., or any point on the Saint Paul and Pacific Railroad or on the Northern Pacific Railroad, to any posts now or which may be established during the existence of the contract in the State of Minnesota, or in that portion of Dakota Territory lying north and east of Missouri River.	$1.22 per 100 lbs. per 100 miles	Mar. 31, 1874
Maj. B. C. Card, chief quartermaster Department of Dakota, Saint Paul, Minn.	A. H. Wilder and N. P. Clarke.	May 27, 1873	To accompany the military escort to the joint commission to survey the boundary-line along the forty-ninth parallel, (thirty two-horse or two-mule wagons with teams, &c., complete.)	$5 per day per team, forage for the animals, and subsistence for the men.	Date of the return of the expedition.
Maj. Alexander J. Perry, chief quartermaster Department of the Platte, Omaha, Nebr.	M. V. Boughton	July 15, 1872	From Bryan, Wyo. Ter., to Camp Stambaugh and Camp Brown, Wyo. Ter.	$2.26⅝ per 100 lbs. per 100 miles, (average.)	June 30, 1873
Do	C. E. Clay and Daniel McUlvan.	July 24, 1872	From Cheyenne Depot, Wyo. Ter., to Forts Laramie and Fetterman, Wyo. Ter.	$1.22½ per 100 lbs. per 100 miles, (average.)	June 30, 1873
Do	John Hunton	Aug. 10, 1872	Medicine Bow, Wyo. Ter., to Fort Fetterman, Wyo. Ter.	$1.74 per 100 lbs. per 100 miles, (average.)	June 30, 1873
Do	Joseph Gordon and Henry B. Murray.	Aug. 30, 1872	From the terminus of the Utah Southern Railroad to Beaver, Wyo. Ter.	$1.44 per 100 lbs. per 100 miles	June 30, 1873
Maj. James J. Dana, chief quartermaster Department of Arizona, Prescott, Ariz. Ter.	Jonathan M. Bryan and Abraham Frank.	June 1, 1872	Route No. 2. From Ehrenbergh to Camps Date Creek, Hualpai, McDowell, Verde, and Fort Whipple, Ariz. Ter.	Per 100 lbs. per 100 miles: To Date Creek and Hualpai, $2.50; to McDowell, $1.90; to Verde, $2.70; to Fort Whipple, $2.35, currency.	June 30, 1873
Do	J. M. Barney	Sept. 16, 1872	Route No. 1. From Yuma Depot to Tucson and Camps Bowie, McDowell, and Grant, Ariz. Ter.	Per 100 lbs. per 100 miles: To Tucson, $2.30; to Camp Bowie, $2.37½; to McDowell, $2.43; to Grant, $2.60.	June 30, 1873
Do	E. N. Fish and W. B. Hellings.	April 1, 1873	Route No. 1. From Yuma Depot to Camps Apache, Bowie, McDowell, and Lowell, and to Tucson Depot and New Camp Grant; and to and from any posts south of latitude 34° north and east of the Colorado River.	Per 100 lbs. per 100 miles: To Apache, $3.25; to Bowie, $2.29; to McDowell, $2.37; to Lowell, Tucson Depot, and New Camp Grant, $2.25.	June 30, 1874
Do	Daniel Hazard	April 1, 1873	Route No. 2. All posts in Department of Arizona north of 34° north and east of the Colorado River, including Camp McDowell, supplied from Ehrenbergh.	Per 100 lbs. per 100 miles: To Camp McDowell, $2.30; to Date Creek, $2.35; to Hualpai, $2.25; to Verde and Fort Whipple, $2.49; between posts, $2.50.	June 30, 1874
Capt. W. B. Hughes, chief quartermaster Department of the Gulf, New Orleans, La.	Edward Schlesinger	May 24, 1873	Wagon transportation in New Orleans and vicinity.	Various	June 30, 1874
Col. L. C. Easton, assistant quartermaster-general, U. S. A., Philadelphia, Pa.	W. S. Crawford	Oct. 1, 1872	Wagon hauling in Philadelphia, and at Schuylkill arsenal, Pennsylvania.	do	June 30, 1873

C.—*Abstract of contracts for wagon transportation, &c.*—Continued.

Names of officers.	Names of contractors.	Date of contract.	Route of supply.	Rates.	Date of expiration of contract.
Col. Stewart Van Vliet, chief quartermaster Department of the Missouri, Fort Leavenworth, Kans.	H. C. Lovell	May 10, 1873	Route No. 2. From any and all points on the Kansas Pacific Railway, Atchison, Topeka and Santa Fé Railroad, and Denver and Rio Grande Railroad, to any post or place in the State of Kansas and Territories of Colorado and New Mexico, and to Camp Apache, Ariz. Ter., and to such portions of the Indian Territory as lie north of the Red River and west of longitude 97°.	Per 100 lbs. per 100 miles: From Atchison, Topeka and Santa Fé Railroad, 90¼ cents; from the Kansas Pacific Railway and Denver and Rio Grande Railroad, 99 11-12 cents, (average.)	Mar. 31, 1874
Lieut. Col. A. R. Eddy, chief quartermaster Department of California, San Francisco, Cal.	Irving Ayres	June 2, 1873	From Reno, Nev., to Camp Bidwell, Cal	$6.43¼ per 100 lbs for the whole distance, (average.)	June 30, 1874
Do	J. S. Rothschild	June 2, 1873	From San Francisco to Camp Independence, Cal.	$6.61¼ per 100 lbs. for the whole distance, (average.)	June 30, 1874
Do	Sigmund Greenbaum	June 1, 1873	From San Francisco to Camp Gaston, Cal	$2.63½ per 100 lbs. for the whole distance, (average.)	June 30, 1874
Do	Benjamin F. White and James C. Stump.	June 2, 1873	From Corinne, Utah Ter., to Fort Hall, Idaho Ter.	$4.50 per 100 lbs. for the whole distance, (average.)	June 30, 1874
Do	James M. Ellis	May 22, 1873	From San Francisco, Cal., to Camp Wright, Cal.	$5.82½ per 100 lbs. for the whole distance, (average.)	June 30, 1874

Respectfully submitted,

M. I. LUDINGTON, *Quartermaster, U. S. A.*

QUARTERMASTER-GENERAL'S OFFICE, *September*, 1873.

Name of officer.	Name of contractor.	Date of contract.	Route of supply.	Rates.	Date of expiration of contract.
Col. D. H. Rucker, A. Q. M. Gen	John B. Dallas	Feb. 21, 1873	Sioux City, Iowa, to Fort Benton, and intermediate points on the Missouri River.	Schedule rates	Oct. 31, 1873
Do	G. W. Cass, president North Pacific Railroad Company.	Mar. 1, 1873	Edwinton to points up and down the Missouri River between Sioux City and Fort Benton; also from Chicago, Ill., to Duluth, Minn.	do	Oct. 31, 1873
Lieut. Col. S. B. Holabird, D. Q. M. Gen.	C. A. Whitney & Co., agents of Chas. Morgan.	July 1, 1872	New Orleans, La., to Galveston, Indianola, and Brazos Santiago, Tex., and return.	do	June 30, 1873
Do	Kenedy & King	July 1, 1872	Brazos Santiago to Brownsville and Ringgold Barracks, Tex., and return.	do	June 30, 1873
Maj. William Myers, Q. M	F. Hollingshead	July 1, 1872	Washington, D. C., to Forts Foote and Washington, Md.	do	June 30, 1873
Maj. J. J. Dana, Q. M	C. Joeger	July 1, 1872	Ferriage across Colorado River at Yuma Depot	$250 per month	June 30, 1873
Capt. H. W. Janes, A. Q. M	George Flavel	July 1, 1872	Astoria, Oreg., to Forts Cape Disappointment and Stevens.	Schedule rates	June 30, 1873
Do	Thomas Coape	July 1, 1872	Fort Townsend to Camp San Juan	do	June 30, 1873
Maj. C. G. Sawtelle, Q. M	B. M. Hartshorne	June 1, 1872	San Francisco, Cal., to Point Isabel, mouth of the Colorado River.	$14 per ton	June 30, 1873

Respectfuly submitted.

M. I. LUDINGTON, *Quartermaster, U. S. A*

QUARTERMASTER-GENERAL'S OFFICE, *September*, 1873.

E.—*Statement of vessels chartered, impressed, or employed by the Quartermaster's Department, during the fiscal year ending June 30, 1873.*

Name.	Class.	Tonnage.	When chartered.	Period of service.		Where charter-money is payable.	By whom put in service.	Rate of pay.	Am't paid.	Am't unpaid.	Total earnings.	Expenses for coal, &c.
				From—	To—							
Henry Smith	Steamer	108	June 1, 1869	July 1, 1872	June 30, 1873	New York City	Col. R. Ingalls, A. Q. M. Gen.	$45 per day	$16,425 00		$16,425 00	
Magnolia	Steamship	1,215	Nov. 4, 1872	Nov. 4, 1872	Dec. 7, 1872	do	do	$550 per day	15,950 00		15,950 00	
Astoria	Steamer	Unknown	June 1, 1872	July 1, 1872	June 30, 1873	Portland, Oreg	Capt. H. W. Janes, A. Q. M.	[*] $440 per mo.	5,354 28		5,354 28	
Favorite	do	do	June 1, 1872	July 1, 1872	June 30, 1873	do	do	[†] $300 per mo.	3,600 00		3,600 00	
Pilot	do	145	Jan. 24, 1873	Jan. 24, 1873	Feb. 11, 1873	San Francisco, Cal	Capt. G. C. Smith, A. Q. M.	$16.66⅔ p'r day	316 67		316 67	[‡] $811 12
Kate	Schooner	Unknown				Fort Johnston, N. C	Lt. E. S. Curtis, A. A. Q. M.	[§] 12½ cents per 100 pounds.	67 73		67 73	
Annie Bell		do				do	do	[§] do	52 49	$6 69	59 18	
Zenith		do				do	do	[§] do	44 45		44 45	
Brandt	Tug-boat	do				do	do	[§] do	64 23		64 23	
Alpha	do	do				do	do	[§] do	14 10		14 10	
Republic	do	do	Dec. 9, 1872	Dec. 9, 1872	Dec. 9, 1872	Charleston, S. C	Capt. G. W. Bradley, A. Q. M.	$10 job	10 00		10 00	
Ajax	Steamer	do	Nov. , 1872	Nov , 1872	Nov. , 1872	Savannah, Ga	Lt. J. W. Dillenback, A. A. Q. M.	$340 job	340 00		340 00	
											42,245 64	811 12

[*] $30 extra trips; $6 an hour overtime. [†] $3 per ton for stores. [‡] Coin. [§] Employed as occasion demands, transporting stores from Wilmington to Fort Johnston.

Respectfully submitted.

M. I. LUDINGTON, *Quartermaster, U. S. A.*

QUARTERMASTER-GENERAL'S OFFICE, *September*, 1873.

Name.	Class.	Tonnage.	When purchased or built, &c.	Estimated value or cost.	By whom employed.	Where employed.	Amount paid for repairs, &c.	Remarks.
Gen. A. A. Humphreys.	Steam-tug ..	45	1867.........	$11,500	Lieut. Col. A. Montgomery, D. Q. M. Gen.	Boston, Mass	$7,381 88	This vessel is owned by the Engineer Department of the Army, and run in connection with that Department.
General McPherson...	Propeller ...	104.23	Sept. 1, 1867	40,000	Lieut. Col. A. R. Eddy, D. Q. M. Gen.	San Francisco, Cal..	24,116 03	Coin.
Margaret	Schooner....	22	Feb. 9, 1864	2,700	Maj. R. N. Batchelder, Q. M..	Portland, Oreg	910 16	Coin.
Pulaski	St'm-launch.	....	Feb. 26, 1872	7,000	....	Fort Pulaski, Ga....	....	
Matchless...............	Schooner....	170	June 5, 1863	13,500	....	Fort Jefferson, Fla..	504 62	
Total	....	....	....	....	....	....	37,413 19	

Respectfully submitted.

M. I. LUDINGTON, *Quartermaster, U. S. A.*

QUARTERMASTER-GENERAL'S OFFICE, *September*, 1873.

VI.—*Report of Capt. A J. McGonningle, assistant quartern U. S. A.*

WAR DEPARTMENT,
QUARTERMASTER-GENERAL'S OFFIC
Washington, D. C., September 22, 1

GENERAL: I have the honor to submit the following report o operations of the cemeterial branch of this office during the fiscal ending June 30, 1873.

The number of interments in the national cemeteries reporte year, 317,962; the number of bodies of Union soldiers since inter the cemeteries, 148; number removed by friends, none; remaini the cemeteries, 318,110; the number of known, 170,287; unk 147,823.

On the 5th of December, 1872, the Secretary of War directed t tablishment of a national cemetery at Fort McPherson, Nebr., an removal thereto of the remains interred at Forts Sedgwick and ney.

By act of Congress approved March 3, 1873, the American b ground near the city of Mexico was designated a national military etery.

The appropriation for national cemeteries for the year ending 30, 1873, was $250,000, of which amount the sum of $527.03 rem undrawn in the Treasury at the end of the fiscal year.

The following work has been done during the year: Brick walls been erected or are now being erected around the following cemet viz: New Berne and Raleigh, N. C., Beaufort and Florence, S. C. Memphis, Tenn.; stone walls around the following cemeteries, viz: ville, Glendale, Seven Pines, and Staunton, Va., Salisbury, N. C Forts Leavenworth and Scott, Kans.

Superintendents' lodges have been or are now being erected a national cemeteries at Danville, Glendale, and Seven Pines, Va leigh and Wilmington, N. C., Camp Nelson, Logan's Cross-Road Lebanon, Ky., Memphis, Chattanooga, Fort Donelson, and Kno Tenn., and Fort Smith, Ark.

At the following national cemeteries permanent inclosures a quired, viz: Andersonville, Ga., Fort Gibson, Ind. T., Grafton, W and Fort McPherson, Nebr.

At the following national cemeteries permanent lodges are req viz: Grafton, W. Va., Beverly, N. J., and Fort McPherson, Nebr.

During the past fiscal year the grounds at all the cemeteries been kept in good order, and permanent improvements, such as age, wells, cisterns, and green-houses added, as the means at com would allow.

A handsome arched gateway, similar to the one erected at th lington, Va., national cemetery, has been built at the Nashville, national cemetery.

The Antietam national cemetery has not yet been transferred b cemetery association to the United States.

Four civil engineers are employed by this Department, with sta at Washington, D. C., Raleigh, N. C., Nashville and Memphis, whose duty it is to inspect and report upon all permanent work on at the cemeteries, mark the lines for the walls, and determin sites for the lodges.

By an act of Congress approved March 3, 1873, $1,000,000 wer propriated for the erection of a head-stone at each grave in the na ilitary cemeteries, to be made of durable stone and of such design nd weight as shall keep them in place when set. The act further pro- des "that the contract shall be awarded by the Secretary of War ter sixty days' advertisement in ten newspapers of general circulation, nd the Secretary of War shall first determine for the various cemeries the size and model for such head-stones, and the standard of uality and color of the stones to be used."

A copy of the advertisement inviting proposals accompanies this re- ort, together with a copy of the published specifications in detail, the andard fixed by the Secretary of War.

The list which accompanies the latter is intended to exhibit only the umber of graves at each cemetery which require head-stones, and does ot include those for which head-stones or monuments have already een provided, nor the number of unknown remains in the Salisbury metery over which one monument is to be erected. Hence the dis- epancy between the totals stated in that list and the total number of terments as given in this report.

By an act approved March 3, 1873, the sum of $10,000 was appropri- ed for a monument at the Salisbury, N. C., national cemetery, wherein e the remains of 12,112 men, most of them not identified. Several ar- sts have been invited to submit designs for such a monument. Three esigns have been received thus far.

Superintendents are required at sixty-six national cemeteries. Seven ere appointed during the year, one died, and one was discharged; xty-five remained on duty at the close of the fiscal year.

Very respectfully, your obedient servant,

A. J. McGONNIGLE,
Captain and Assistant Quartermaster, U. S. A.

Brig. Gen. M. C. MEIGS,
Quartermaster-General, U. S. A.

Proposals for head-stones for national military cemeteries.

WAR DEPARTMENT,
QUARTERMASTER-GENERAL'S OFFICE.
Washington, D. C., June 27, 1873.

Proposals are invited for furnishing head-stones for the national military cemeteries prescribed by the law of 3d March, 1873, of which the following is an extract:

" *Provided*, that the head-stones required by an act entitled 'An Act to establish and otect national cemeteries,' approved February 22, 1867, and the act amendatory ereof, approved June 8, 1872, shall be of durable stone, and of such design and weight shall keep them in place when set; and the contract for supplying the same shall be varded by the Secretary of War, after sixty days' advertisement in ten newspapers of neral circulation, to some responsible person or persons whose samples and bids shall the greatest measure combine the elements of durability, decency, and cheapness; d the sum of one million dollars is hereby appropriated for said purpose out of any oney in the Treasury not otherwise appropriated; and the Secretary of War shall st determine for the various cemeteries the size and model for such head-stones, and e standards of quality and color of the stone to be used, and bids shall be made and cided with reference thereto; and contracts may be made for separate quantities of ch head-stones; and the contracts made under this act shall provide for furnishing d setting all the said head-stones, and shall not in the aggregate exceed the sum reby appropriated."

The total number to be furnished is estimated at [*]253,088 for the known, 147,694; r the unknown, 105,394.

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[*] These figures could only be estimated when the advertisement was prepared, as full ports from some officers in charge of cemeteries had not then been received; hence e discrepancy existing between the above figures and the total number in list accom- nying the specifications, the latter having been corrected from reports received after e advertisement had been prepared.

Specifications, describing in detail the standard fixed by the Secretary of Wa be had on application by letter to this Office, where also a specimen will be plac exhibition within a few days.

Proposals should be in sealed envelopes, marked: "Proposals for head-stone national military cemeteries," and addressed to the Quartermaster-General of Army, in whose Office they will be opened, in presence of bidders, on Saturday, tember 6, 1873, commencing at 11 o'clock a. m.

By order of the Secretary of War.

M. C. MEIGS,
Quartermaster-General, Bvt. Maj. Gen., U. S.

Official copy.

A. J. McGONNIGLE,
Capt. and Assistant Quartermaster, U. S.

WAR DEPARTMENT,
QUARTERMASTER-GENERAL'S OFFICE,
Washington, D. C., August 15, 18

Mr. —— ——,

SIR: In addition to the information contained in the specifications for head-s for soldiers' graves, you are advised that abbreviations may be made in the Chri or first name of the deceased, also in his rank, and in the name of his State, thus

WM. C. JONES, PVT., MASS.

SAM. H. WALKER, LT. COL., PA.

Where the name of the deceased is long, it must be put on the stone in a curve, the rank and name of the State below.

By order of the Secretary of War.

M. C. MEIGS,
Quartermaster-Gene

Specifications for head-stones for national military cemeteries.

FOR THE KNOWN.

A white marble or gray granite slab, four (4) inches thick, ten (10) inches twelve (12) inches high above ground, and, for the latitude of Washington, and so twenty-four (24) inches in the ground; north of that latitude, thirty (30) inch the ground.

The part above ground to be polished neatly, and to have the top slightly curv

The number of the grave, the rank and name of the soldier, and the name o State from which he came, to be cut on one face; the figures and capital letters to inches long and ¼ inch deep; the other letters one inch long and ⅛ inch deep. letters may be in relief or incised, at the option of the bidder.

The portion below ground to be rough-dressed, and at least ½ inch wider and th than the part above ground. The bottom to be straight and of uniform thickness h corners square.

FOR THE UNKNOWN.

A granite or marble block six inches square and two and one-half feet long, (6″ × 2′ 6″.)

The top and four inches of the sides of the upper end to be neatly dressed, and number of the grave cut on the top in figures 2½ inches long and ½ inch deep, o lieved. When the figures are more than three, they will be arranged in a curve ar the margin.

The top to be flat or slightly convex; the bottom to be flat and full six in square; the rest of the block to be rough-dressed or split, but to be of full throughout.

The block to be firmly set in the ground so that the top shall be just even with top of the grave.

The marble for the *slabs* to be white, of fine grain, good texture, and hard; for the *locks*, to be nearly white, of pretty fine grain, and good texture—to be a good durable arble.

The granite for the *slabs* to be of uniform gray, of a fine grain, uniform mixture of he ingredients, and free from all oxides; for the *blocks*, to be gray, of pretty close rain, and to be a good granite for building purposes.

Specimen head-stones, giving the form, the style of finish, and the quality of the one required, will be exhibited in the Quartermaster-General's Office in a few days.

NOTES.

1. These slabs may be of uniform width and thickness throughout, (viz: 10 inches ide and 4 inches thick,) at the option of the bidder.

2. The granite slabs may be fine-pin hammered on the back, and the face rubbed or nded smooth.

3. The term *polished* is used to signify the usual manner of finishing marble head-ones.

List of national cemeteries requiring head-stones.

	Name of cemetery.	Location.	Number of interments of known remains.	Number of interments of unknown remains.	Total number of interments.
1	Alexandria Cemetery	One mile from Alexandria, La	517	763	1, 280
2	Alexandria Cemetery	At Alexandria. Va	3, 337	103	3, 440
3	Andersonville Cemetery	At Andersonville, Ga	12, 769	483	13, 252
4	Annapolis Cemetery	One-fourth mile from Annapolis, Md	2, 263	211	2, 474
5	Arlington Cemetery	Three miles from Washington, D. C	7, 247	1, 798	9, 045
6	Ball's Bluff Cemetery	On the Potomac River, opposite Edwards' Ferry.	1	24	25
7	Barrancas Cemetery	Near Fort Barrancas, Pensacola, Fla	580	375	955
8	Battle Ground Cemetery	Four miles from Washington, D. C	40	....	40
9	Baton Rouge Cemetery	At Baton Rouge, La	2, 428	494	2, 922
0	Beaufort Cemetery	Three-fourths of a mile from Beaufort, S. C.	4, 319	3, 900	8, 219
1	Beverly Cemetery	One and one-half miles from Beverly. N. J	138	7	145
2	Brownsville Cemetery	Near Fort Brown, Tex	1, 288	1, 409	2, 697
3	Camp Butler Cemetery	Six miles from Springfield, Ill., on the Toledo, Western and Wabash Railroad.	533	164	697
4	Camp Nelson Cemetery	Six miles from Nicholasville, Ky	2, 337	1, 189	3, 526
5	Cave Hill Cemetery	At Louisville, Ky	3, 226	548	3, 774
6	Chalmette Cemetery	Six miles from New Orleans, La	6, 658	5, 280	11, 938
7	Chattanooga Cemetery	One and one-fourth miles from Chattanooga, Tenn.	7, 919	4, 929	12, 848
8	City Point Cemetery	One and one-half miles from City Point, Va.	3, 490	338	3, 828
9	Cold Harbor Cemetery	Eleven and one-half miles from Richmond, Va	630	1, 311	1, 941
0	Corinth Cemetery	Three-fourths of a mile from Corinth, Miss	1, 784	3, 886	5, 670
1	Crown Hill Cemetery	Three miles from Indianapolis, Ind	672	36	708
2	Culpeper Cemetery	At Culpeper Court-House, Va	446	902	1, 348
3	Cypress Hill Cemetery	On Long Island, eight miles from New York City.	3, 038	75	3, 113
4	Danville Cemetery	At Danville, Va	1, 159	134	1, 293
5	Fayetteville Cemetery	One-half mile from Fayetteville, Ark	456	754	1, 210
6	Florence Cemetery	One mile from Florence, S. C	159	2, 799	2, 958
7	Fort Donelson Cemetery	One-half mile from Dover, Tenn	128	511	639
8	Fort Gibson Cemetery	At Fort Gibson, Ind. T	156	1, 967	2, 123
9	Fort Harrison Cemetery	Eight miles from Richmond Va	240	286	526
0	Fort Leavenworth Cemetery.	One-half mile from Fort Leavenworth, Kans.	364	744	1, 108
1	Fort Scott Cemetery	One and one-half miles from Fort Scott, Kans.	307	102	409
2	Fort Smith Cemetery	One-fourth of a mile from Fort Smith, Ark	565	939	1, 504
3	Fredericksburgh Cemetery	At Fredericksburgh, Va., one mile from the railway station.	2, 448	4, 155	6, 603
4	Gettysburgh Cemetery	At the village of Gettysburgh, Pa	....	979	979
5	Glendale Cemetery	Fifteen miles from Richmond, Va	237	399	636
6	Grafton Cemetery	One-fourth of a mile from Grafton, W. Va	618	608	1, 226
7	Hampton Cemetery	One-half mile from Hampton, Va	4, 364	450	4, 814
8	Jefferson Barracks Cemetery.	On the military reserve of Jefferson Barracks, ten miles from Saint Louis, Mo.	6, 756	1, 754	8, 510
9	Jefferson City Cemetery	At Jefferson City, Mo	310	330	640
0	Keokuk Cemetery	At Keokuk, Iowa	569	21	590
	Knoxville Cemetery	Three-fourths of a mile from Knoxville, Tenn	2, 016	1, 045	3, 061

List of national cemeteries requiring head-stones—Continued.

Running number.	Name of cemetery.	Location.	Number of interments of known remains.	Number of interments of unknown remains.
42	Laurel Cemetery	Near Baltimore, Md	236	2
43	Lebanon Cemetery	Two and one-half miles from Lebanon, Ky	564	283
44	Lexington Cemetery	One mile from Lexington, Ky	815	105
45	Little Rock Cemetery	One and one-half miles from Little Rock, Ark.	2,765	37
46	Logan's Cross-roads Cemetery.	At Mill Springs, Lincolnville, Ky	327	367
47	Loudon Park Cemetery	Three miles from Baltimore, Md	1,475	161
48	Marietta Cemetery	At Marietta, Ga	6,999	3,053
49	Memphis Cemetery	Six miles from Memphis, Tenn	5,027	8,811
50	Mobile Cemetery	At Mobile, Ala	248	562
51	Mound City Cemetery	One and one-half miles from Mound City, Ill	2,450	2,640
52	Nashville Cemetery	Six miles from Nashville, Tenn	11,477	3,966
53	Natchez Cemetery	One and one-half miles from Natchez, Miss.	287	2,775
54	New Albany Cemetery	At New Albany, Ind	2,090	666
55	New Berne Cemetery	One mile from New Berne, N. C.	2,031	286
56	Philadelphia cemeteries	At Philadelphia, Pa	1,789	30
57	Pittsburgh Landing Cemetery.	Three and one-fourth miles from Shiloh, Tenn.	1,227	2,354
58	Poplar Grove Cemetery	Five miles from Petersburgh, Va	2,171	3,354
59	Port Hudson Cemetery	One and one-half miles from Port Hudson, La	540	3,260
60	Raleigh Cemetery	One mile from Raleigh, N. C	606	553
61	Richmond Cemetery	Three and one-half miles from Richmond, Va.	832	4,003
62	Rock Island Cemetery	On Rock Island, Mississippi River, Ill	280	9
63	Salisbury Cemetery	One-half mile from Salisbury, N. C	88	......
64	Seven Pines Cemetery	Nine miles from Richmond, Va	140	649
65	Soldiers' Home Cemetery.	Two miles from Washington, D. C	4,959	279
66	Springfield Cemetery	Three miles from old Springfield, Mo.; six miles from railroad station.	812	706
67	Staunton Cemetery	One and one-fourth mile from Staunton, Va.	231	406
68	Stone River Cemetery	Three miles from Murfreesborough, Tenn	3,742	2,321
69	Vicksburgh Cemetery	Two miles from Vicksburgh, Miss	3,829	12,687
70	White Hall Cemetery	Near Bristol, seventeen miles from Philadelphia, Pa.	59	1
71	Wilmington Cemetery	One mile from Wilmington, N. C	701	1,359
72	Winchester Cemetery	One-fourth of a mile from Winchester, Va	2,009	2,026
73	Yorktown Cemetery	One-half mile from Yorktown, Va	722	844
	Total		148,040	104,757

M. C. MEIGS
Quartermaster-General Bvt. Maj. Gen., U.

QUARTERMASTER-GENERAL'S OFFICE,
Washington, June 27, 1873.

REPORT OF COMMISSARY-GENERAL OF SUBSISTENCE.

REPORT

OF THE

OMMISSARY-GENERAL OF SUBSISTENCE.

OFFICE COMMISSARY-GENERAL OF SUBSISTENCE,
Washington City, *October* 10, 1873.

SIR: I have the honor to submit the following report of the opera- ons of the Subsistence Department of the Army for the fiscal year rminating June 30, 1873:

During the year subsistence supplies for the Army have been pro- ured, distributed, stored, and sold or issued to officers, enlisted men, vilian army employés, and others whose connection with the Army titles them to such supplies, by the methods required by law and rmy Regulations, and under appropriate requisitions and orders of a neral or special nature, no changes having taken place during the ar in the sources of such supplies, except such as necessarily follow eir increasing production and decreasing cost at points nearer the oops to be supplied.

Responsible officers of the Subsistence Department stationed at the adquarters of the several geographical divisions and departments as ief commissaries, acting constantly under the knowledge and ap- oval of their respective commanding generals, are charged, under nformity with the laws and regulations and the orders or decisions of e Secretary of War or Commissary-General, with the procurement, stribution, care, and issue of the necessary supplies.

During the fiscal year ending June 30, 1873, there were reported to is Office 205 advertisements inviting proposals for supplies, 305 con- acts for fresh meat, 62 contracts for complete rations, 127 contracts r miscellaneous articles, and 298 contracts, consisting of written pro- osals and acceptances.

The average price of fresh beef per contracts made during the year as as follows, in the several States and Territories:

States or Territories.	Cents per pound.	States or Territories.	Cents per pound.	States or Territories.	Cents per pound.
aine	13.62	Alabama	9.12	Dakota Territory	9.09
assachusetts	14.00	Mississippi	10.50	Wyoming Territory	8.88
ode Island	11.75	Louisiana	9.00	New Mexico Territory	8.53
nnecticut	10.00	Texas	5.04	Colorado Territory	7.18
w York	11.69	Tennessee	8.68	Utah Territory	7.87
nnsylvania	10.54	Kentucky	8.68	Montana Territory	9.15
aryland	10.81	Illinois	7.95	California	11.70
strict of Columbia	12.20	Michigan	10.85	Oregon	7.36
rginia	11.93	Missouri	5.50	Arizona Territory	13.87
rth Carolina	11.16	Minnesota	8.85	Washington Territory	9.18
uth Carolina	10.72	Nebraska	7.35	Idaho Territory	11.82
orgia	8.37	Kansas	8.68	Nevada	15.67
orida	8.66	Indian Territory	7.12		

Making the average contract price for the year 9.81 cents per pound net, eing 5½ mills less than for the previous year.

The average cost of the complete ration for the fiscal year ending June 30, 1873, at ten of the principal points of purchase was as follows:

Months.	New York, N. Y.	Baltimore, Md.	Louisville, Ky.	Saint Louis, Mo.	Saint Paul, Minn.	Omaha, Nebr.	Fort Leavenworth, Kans.	Chicago, Ill.	New Orleans, La.	San Francisco, Cal.
1872.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
July	15.97	21.57	14.58	15.69	16.31	16.13	16.57	15.99	17.15	22.65
August	15.97	19.16	14.17	16.22	16.29	16.81	16.61	16.07	17.97	22.38
September	16.29	19.15	14.46	16.11	16.28	17.92	18.18	15.75	19.45	22.34
October	16.73	18.94	14.71	16.87	16.41	19.03	18.93	15.09	20.00	21.31
November	17.01	18.92	15.10	15.90	15.97	18.41	18.83	13.29	19.48	21.30
December	16.49	18.25	14.62	16.62	16.58	18.13	18.04	14.38	17.82	21.49
1873.										
January	15.50	18.17	14.55	15.26	16.72	17.14	17.55	14.70	18.32	21.50
February	16.75	20.58	15.36	16.26	16.12	18.65	16.00	14.21	20.52	21.88
March	18.31	20.58	16.02	16.31	15.84	18.63	18.52	16.17	17.70	22.38
April	16.60	20.33	15.68	15.46	16.57	18.76	18.01	15.41	17.53	22.08
May	17.45	20.49	15.50	16.66	17.14	18.25	17.64	14.59	18.10	22.97
June	17.20	19.98	15.46	16.61	16.61	16.06	16.88	13.95	18.58	22.16
Average	16.69	19.67	15.02	16.16	16.40	17.82	17.64	14.96	18.55	21.96

Making the general average for the year seventeen cents and forty-eight hundredths per ration, showing an increase of thirty-four hundredths of a cent over the average of the previous year.

Under the requirements of section 6, act of March 3, 1865, the Subsistence Department has during the year furnished tobacco for sale to the enlisted men of the Army at cost price, to the amount of $152,489.40, the average monthly sale being $12,707.45.

It is respectfully requested that tobacco be furnished to the enlisted men of the Army by issue as a component part of the regular ration, instead of by sale, and that the ration of tobacco be, as near as may be, the same amount as is at present authorized to be sold to them, viz. 16 ounces per month.

Under the provisions of section 16 of the act of June 30, 1834, and paragraph 1202, Revised Regulations for the Army, 1863, subsistence supplies to the value of $19,925.68 have, in the discretion of commanding officers, been issued gratuitously to Indians of the various tribes visiting military posts, or in their respective nations, no part of which amount is returned to the appropriation for the subsistence of the Army.

During the fiscal year there were received from 415 officers of the Army on duty in the Subsistence Department, who were responsible for subsistence funds or supplies,

3,143	returns of provisions.
1,089	returns of commissary property.
3,231	accounts current.
7,463	total accounts and returns;

7,463 total accounts and returns; of which all have been examined and forwarded to the Third Auditor of the Treasury for final settlement, with the exception of 876, which await examination in this Office.

Under the act of June 23, 1870, as extended by the act of June 7, 1872, authorizing the proper accounting officers of the Treasury, in the settlement of certain accounts of disbursing officers of the Army and Navy, to allow such credits for over-payments and for losses of funds, vouchers, or property, as they may deem just and honorable, when recommended, under authority of the Secretaries of War and Navy, by the heads of the military and naval Bureaus to which such accounts reectively pertain, credits have been recommended in the cases of 370 sbursing officers in the sum of $107,236.77, making the total number officers relieved under the operation of the acts cited 767, in the total nount of $216,557.56.

Up to, and including, the 27th day of September, 1873, 6,096 claims, nounting to $3,312,757.68, had been submitted for examination under e third section of the act of July 4, 1864, for subsistence alleged to ave been taken or furnished during the war for Army use in States ot in rebellion; 105 of these, accompanied by regular vouchers given y the officers when purchasing the stores, have been recommended for ayment, in the aggregate sum of $9,152.75, by the Third Auditor of the reasury, as purchases under contract, while 1,301 others (aggregating 431,443.31) have been recommended to him for settlement under the t, in the aggregate amount of $308,295.79; and 4,443, amounting to 2,682,644.18, have been examined and disallowed.

Up to the 30th of September, 1873, there have been received and paid 525 certificates for commutation of rations to Union soldiers (prisoners of war) and their heirs, as authorized by the joint resolution of uly 25, 1866, and section 3 of the act of March 2, 1867, amounting to 287,318.

Under the act of March 3, 1873, to provide for the better care and rotection of subsistence supplies, by selecting from the sergeants of the ne of the Army, who shall have faithfully served therein five years, as any commissary sergeants as the service requires, not to exceed one r each military post or place of deposit of subsistence supplies, there ave been selected and appointed 149 commissary sergeants, who have een assigned to the same number of military posts; a considerable umber of whom have been in the performance of their duties a suffient length of time to show that they have performed them in a highly tisfactory manner, and already to give evidence that the benefit to e service that was anticipated would result from having such a body of xperienced and worthy non-commissioned officers will be fully realized. hese commissary sergeants have been selected from those sergeants of e line of the Army eligible under the law, who have an honorable ecord and are recommended by their company and regimental comanders; such recommendations in the majority of cases being accomanied by testimonials of character, capacity, and honorable service in e line as soldiers and non-commissioned officers by officers under whom ey have served.

The officers of this department, their rank and assigned stations and uties, are as follows:

Name and rank.	Assigned duties.	Station.
OMMISSARY-GENERAL OF SUBSISTENCE.		
Brigadier-General.		
nos B. Eaton, brevet major-general, March 13, 1865.	Commissary-General of Subsistence...	Washington, D. C.
SSISTANT COMMISSARIES-GENERAL OF SUBSISTENCE.		
Colonels.		
lexander E. Shiras, brevet major-general, March 13, 1865.	First assistant to the Commissary-General of Subsistence.	Washington, D. C.
arles L. Kilburn, brevet brigadier-general, March 13, 1865.	Chief commissary subsistence, Division and Department of the South, and purchasing and depot commissary subsistence at Louisville, Ky.	Louisville, Ky.

Name and rank.	Assigned duties.	Station.
Lieutenant-Colonels.		
Marcus D. L. Simpson, brevet major-general, March 13, 1865.	Chief commissary subsistence, Military Division of the Atlantic.	New York, N. Y.
Henry F. Clarke, brevet major-general, March 13, 1865.	Chief commissary subsistence, Military Division of the Missouri.	Chicago, Ill.
Majors.		
William W. Burns, brevet brigadier-general, March 13, 1865.	Chief commissary subsistence, Military Division of the Pacific.	San Francisco, Cal.
Amos Beckwith, brevet major-general, March 13, 1865.	Chief commissary subsistence, Military Department of the Gulf, and purchasing and depot commissary at New Orleans, La.	New Orleans, La.
John McL. Taylor, brevet colonel, March 13, 1865.	Purchasing and depot commissary at Baltimore, Md.	Baltimore, Md.
Beekman DuBarry, brevet colonel, March 13, 1865.	Chief commissary subsistence, Military Department of Dakota, and purchasing and depot commissary at Saint Paul, Minn.	Saint Paul, Minn.
Robert Macfeely, brevet colonel, March 13, 1865.	Purchasing and depot commissary at Chicago, Ill.	Chicago, Ill.
Thomas J. Haines, brevet brigadier-general, March 13, 1865.	Purchasing and depot commissary at Boston, Mass.	Boston, Mass.
George Bell, brevet brigadier-general, April 9, 1865.	Purchasing and depot commissary at Washington, D. C.	Washington, D. C.
Michael R. Morgan, brevet brigadier-general, April 9, 1865.	Chief commissary subsistence, Military Department of the East, and purchasing and depot commissary at New York City, N. Y.	New York, N. Y.
Captains.		
John P. Hawkins, brevet major-general, March 13, 1865.	Chief commissary subsistence, Military Department of the Lakes, and purchasing and depot commissary at Detroit, Mich.	Detroit, Mich.
Michael P. Small, brevet brigadier-general, April 9, 1865.	Chief commissary subsistence, Military Department of Arizona.	Prescott, Ariz.
Thomas C. Sullivan, brevet lieutenant colonel, March 13, 1865.	Chief commissary subsistence, Military Department of Texas, and purchasing and depot commissary at San Antonio, Tex.	San Antonio, Tex.
John W. Barriger, brevet brigadier-general, March 13, 1865.	Assistant to Commissary-General of Subsistence.	Washington, D. C.
Thomas Wilson, brevet brigadier-general, March 13, 1865.	Chief commissary subsistence, Military Department of California, and purchasing and depot commissary at San Francisco, Cal.	San Francisco, Cal.
William H. Bell, brevet major, March 13, 1865.	Chief commissary subsistence, Military Department of the Columbia, and purchasing and depot commissary at Portland, Oreg.	Portland, Oreg.
Jeremiah H. Gilman, brevet lieutenant-colonel, December 31, 1862.	Chief commissary subsistence, Military Department of the Missouri, and purchasing and depot commissary at Fort Leavenworth, Kans.	Fort Leavenworth, Kans.
Samuel T. Cushing, brevet major, March 13, 1865.	Chief commissary subsistence, Military District of New Mexico.	Santa Fé, N. Mex.
William A. Elderkin, brevet major, March 13, 1865.	Purchasing depot and post commissary at Pueblo, Colo.	Pueblo, Colo.
Charles B. Penrose, brevet lieutenant-colonel, November 17, 1867.	Purchasing and depot commissary subsistence at Saint Louis, Mo.	Saint Louis, Mo.
William H. Nash, brevet major, November 17, 1867.	Chief commissary subsistence, Military Department of the Platte, and purchasing and depot commissary at Omaha, Nebr.	Omaha, Nebr.
Charles McClure, brevet major, August 17, 1866.	Purchasing and depot commissary subsistence at Sioux City, Iowa.	Sioux City, Iowa.
Andrew K. Long, brevet lieutenant-colonel, March 2, 1867.	Depot commissary at Cheyenne, Wyo	Cheyenne, Wyo.

I have the honor to be, very respectfully, your obedient servant,

A. B. EATON,
Commissary-General.

The Hon. the SECRETARY OF WAR.

REPORT OF THE SURGEON-GENERAL.

REPORT

OF

THE SURGEON-GENERAL.

WAR DEPARTMENT, SURGEON-GENERAL'S OFFICE,
Washington, October 1, 1873.

SIR: I have the honor to submit the following statement of finances nd general transactions of the Medical Department of the Army for he fiscal year ending June 30, 1873:

FINANCIAL STATEMENT.

The funds subject to the requisitions of the Medical Bureau during he year ending June 30, 1873, were:

. Appropriation for the relief of sick and discharged soldiers, under the act approved July 5, 1862:

Balance remaining July 1, 1872	$11,914 17
Disbursed during the year	1,556 43
Balance June 30, 1873	10,357 74

I. Appropriation under the act of March 3, 1869, to enable the Secretary of the Treasury to settle the accounts of disbursing officers:

Balance remaining July 1, 1872	$15,850 38
Transferred during the year	9,191 40
Balance June 30, 1873	6,658 98

I. Appropriation under act of March 3, 1873, to enable the Secretary of the Treasury to settle the accounts of disbursing officers	$275,000 00

No disbursements.

V. Appropriations for the Medical and Hospital Department of the Army for the time prior to July 1, 1870:

Balance remaining July 1, 1872		$1,248,215 62
Refunded by the Pay Department		200,000 00
Received from sales		45 55
Received from other sources		6 95
		1,448,268 12
Disbursed during the year	$224,488 54	
Carried to surplus fund	500,000 00	
Balance June 30, 1873	723,779 58	
		1,448,268 12

. Appropriation for the Medical and Hospital Department for the fiscal year ending June 30, 1871:

Balance remaining July 1, 1872	$32,035 19
Deposited by Lt. Col. R. Murray May 15, 1872; covered into the Treasury September 30, 1872	212 80
	32,247 99

Disbursed during the year	$1,975 12	
Balance June 30, 1873	30,272 87	
		$32,247 99

VI. Appropriation for the Medical and Hospital Department for the fiscal year ending June 30, 1872:

Balance remaining July 1, 1872		$25,361 21
Deficiency appropriations of March 3, 1873		8,000 00
Amount received from sales		124 75
Received for property lost or damaged		63 98
Received from all other sources		6 22
		33,556 16
Disbursed during the year	$26,552 28	
Balance June 30, 1873	7,003 88	
		33,556 16

VII. Appropriation for the Medical and Hospital Department for the fiscal year ending June 30, 1873:

Appropriation under act of June 6, 1872	$300,000 00
Disbursed during the year	252,303 20
Balance remaining June 30, 1873	47,696 80
Required for unsettled bills	32,400 00

VIII. Appropriation for support of the Army Medical Museum and Library of the Surgeon-General's Office, under act of June 6, 1872

Appropriation for support of the Army Medical Museum and Library of the Surgeon-General's Office, under act of June 6, 1872	$10,000 00
Disbursed during the year	8,859 26
Balance June 30, 1873, required for unsettled bills	1,140 74

IX. Appropriation for completing the Medical and Surgical History of the War, under act of June 8, 1872	$60,000 00
Disbursed during the year	12,706 12
Balance remaining June 30, 1873	47,293 88

X. Appropriation by act of June 6, 1872, for furnishing appliances to disabled soldiers	$10,000 00
Disbursed during the year	1,198 62
	8,801 38

XI. Amount expended under the act of May 28, 1872, to provide for furnishing trusses to ruptured soldiers	$7,936 17

Number of artificial limbs allowed during the fiscal year:

	In kind.	By commutation.
Arms	4	300
Legs	41	90
Feet	1	23
Apparatus	10	847
	56	1,260

HEALTH OF THE ARMY DURING THE FISCAL YEAR ENDING JUNE 30, 1873.

The monthly reports of sick and wounded received during the year represent an annual average mean strength of 24,844 white and 2,520 colored troops.

Among the white troops, the total number of cases of all kinds reported as taken on the sick-list was 48,767, being at the rate of 1,963 per 1,000 of mean strength. (That is very nearly two entries on the sick eport during the year for each man.) Of the whole number 41,398, or ,666 per 1,000 of strength, were taken on sick report for disease, and ,369, or 297 per 1,000 of strength, for wounds, accidents and injuries.

The average number constantly on sick report during the year was ,219, or 49 per 1,000 of strength; of these 978, or 39 per 1,000 of trength, were under treatment for disease, and 241, or 10 per 1,000 of trength, for wounds, accidents, and injuries.

The total number of deaths reported was 412, or 17 per 1,000 of mean trength. Of these 246, or 10 per 1,000 of strength, died of disease, and 66, or 7 per 1,000 of strength, of wounds, accidents, and injuries. The roportion of deaths from all causes to cases treated was 1 death to 118 ases.

Eight hundred and ninety-four white soldiers are reported to have een discharged on "surgeon's certificate of disability," being at the ate of 36 per 1,000 of mean strength.

The reports from the colored troops give the following figures, which lo not include the white officers.

The total number of cases of all kinds reported was 4,305, or 1,708 per ,000 of mean strength. Of these 3,625, or 1,438 per 1,000 of strength, vere cases of disease, and 680, or 270 per 1,000 of strength, were wounds, ccidents, and injuries.

The average number constantly on sick report was 122, or 48 per 1,000; f whom 94, or 37 per 1,000, were under treatment for disease, and 28, or 1 per 1,000, for wounds, accidents, and injuries.

The number of deaths from all causes reported was 53, or 21 per 1,000 f strength. Of these 46, or 18 per 1,000 of strength, died of disease, and , or 3 per 1,000, of wounds, accidents, and injuries. The proportion of leaths from all causes to cases treated was 1 death to 81 cases.

The number of discharges on "surgeon's certificate of disability" reported was 60, or 24 per 1,000 of mean strength.

WORK PERFORMED IN THE RECORD AND PENSION DIVISION.

The number of official calls for information from the Record and Pension Division is somewhat less than during the previous years, but still ontinues to be large. During the fiscal year terminating June 30, 872, as stated in my last annual report, 19,237 applications were received, of which 4,827 remained unanswered at the close of the year. From that time to June 30, 1873, the total number of new applications or information received was 16,601, of which 11,080 were from the Commissioner of Pensions, 5,125 from the Adjutant-General of the Army, and 96 from miscellaneous sources. These new cases added to the 4,827 cases emaining on hand at the commencement of the year made 21,428 to be lisposed of.

Search was made and replies furnished to the proper authorities in 9,875 of these cases, viz: 13,422 to the Commissioner of Pensions, ,005 to the Adjutant-General of the Army, and 448 to miscellaneous applicants, leaving 1,553 unsearched cases on hand on the 30th of June, 873.

As during previous years, the applications for information continue to efer chiefly to the cause of death or discharge from service and the ospital history of soldiers dead or disabled during the war of the rebelion. This information is used in the adjustment of pension and other laims, and serves both as a protection to the Government against fraudulent claims, and as an aid in establishing the merits of worthy ones. It is thought that hereafter the amount of such work required of this Office will slowly but steadily diminish.

DIVISION OF SURGICAL RECORDS.

At the date of the last annual report there were entered on the
ters abstracts of 207,135 surgical cases and of 39,291 surgical opera
or an aggregate of 246,426 surgical histories. During the year 1
cases of wounds and injuries, and 743 cases of operations, have
entered, making the aggregate 219,873 cases of wounds and 4
cases of operations, or a grand total of 259,907.

Supplementary information was added, results determined, &
15,612 of these cases from the files of the Office, and in 2,683 case
remote results of injuries were ascertained from the pension record

Four thousand six hundred and sixteen reports, letters, and ind
ments were received, indexed, and filed, and, in addition to routin
knowledgments, 566 letters were written.

ARMY MEDICAL MUSEUM.

Medical section.

Specimens in museum July 1, 1872..
Specimens in museum July 1, 1873..

Increase..

Microscopical section.

Specimens in museum July 1, 1872..
Specimens in museum July 1, 1873..

Increase..

Section of comparative anatomy.

Specimens in museum July 1, 1872..
Specimens in museum July 1, 1873..

Increase..

There were embraced in the—

Surgical section.

Of specimens in the museum July 1, 1872..................................
Of specimens in the museum July 1, 1873..................................

Increase..

Anatomical section.

Of specimens in the museum July 1, 1872..................................
Of specimens in the museum July 1, 1873..................................

Increase..

Miscellaneous section.

Specimens in museum July 1, 1872..
Received 12; transferred 8.
Specimens in museum July 1, 1873..

Increase..

Fifteen casts of pathological specimens and two volumes of pl
graphs were placed at the disposition of Prof. J. B. S. Jackson, t
presented to the museum of Harvard University.

From this it will be seen that although having attained an al
unprecedented size and value, this national collection continue
increase in importance and is becoming more generally appreciated
utilized. During the year 22,560 visitors registered their names.

MEDICAL AND SURGICAL HISTORY OF THE WAR.

The distribution of the first part of the Medical and Surgical History of the War having been authorized by Congress, about 1870 copies were available for issue from this Office as shown by the following statement:

Sent to congressional committees, as specimens	12
Sent to Senators	1,000
Sent to Representatives	2,000
Sent to Library of Congress	50
Damaged and imperfect copies	70
To be issued by Surgeon General's Office	1,868
Total number of copies printed	5,000

The delivery of copies from the Government Printing Office commenced in February, 1873, and they have been distributed as fast as received.

The demand for the work has been very great, and the number of copies placed at the disposal of this Office proves insufficient to supply those who as ex-medical officers, having rendered satisfactory service through the war, may be considered as properly entitled to it.

The second part of the work is now going through the press as rapidly as possible.

The interest felt by the medical profession of the country in the attempt to establish a national medical library worthy of the name, in connection with the Army Medical Museum, has steadily increased, as shown by letters received and by numerous presentations of books and pamphlets during the year. The library now contains about 25,000 volumes and 15,000 pamphlets, and although still very incomplete when compared with similar national collections in Europe, is at present the largest in this country. A new catalogue is now being printed which will, it is believed, be a valuable contribution to medical bibliography.

I would respectfully renew the recommendation made in my annual reports of 1870 and 1872, "that the necessary legislation be procured to enable me to publish an edition of one thousand of the Catalogue and Tables of the Anatomical Section of the Army Medical Museum, in a style similar to Morton's *Crania Americana*." A bill for this purpose (H. R. 3453) passed the House, and was before the Military Committee of the Senate at the close of the last session of Congress, thus failing to become a law.*

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* The following report, No. 56, from the Committee on Military Affairs of the House of Representatives, dated February 4, 1873, sets forth more fully the reasons for the above request:

[Report to accompany bill H. R. 3453.]

The Committee on Military Affairs, to whom was referred H. R. 3453, entitled "A bill to provide for the printing at the Government Printing Office of one thousand copies of the Descriptive Anatomical Catalogue of the Army Medical Museum," have had the same under consideration, and submit as a statement of the facts in the case, and as reasons for the passage of the accompanying bill, the following communications from the Surgeon-General, which are made a part hereof:

War Department, Surgeon-General's Office,
Washington, January 18, 1873.

Sir: In reply to your letter of the 17th instant, asking for "a statement of the facts going to show the *importance* of printing the Descriptive Anatomical Catalogue of the Army Medical Museum," contemplated in the bill H. R. 3453, I have the honor to represent that it is mainly through the printed catalogues that the collections of the museum are made available to scientific students, the majority of whom cannot personally examine them. Catalogues of the surgical, medical, and microscopical sections have been already printed, and their distribution has resulted, not only in widely diffusing a knowledge of the contents of the museum relative to those subjects, but in

I am compelled to again repeat the statement made in previou
ports that very serious and increasing injury has resulted to the se
from the continued prohibition of appointments and promotions i
medical corps. The inducements of pay and rank, as at present e
lished, are not sufficient to make the service attractive or remuner
to physicians already engaged in practice; and though, through the
requisite rigid examination of candidates, it has heretofore been f
possible to secure a high grade of talent and qualification, it is
the younger portion of the profession, the recent graduates, th
must depend in filling up existing vacancies. As a large proporti
applicants fail to pass satisfactory examinations (which require in
case from three to six days) it will be the work of several yea
restore the corps to the necessary standard of numbers as provide
in the act of Congress approved July 28, 1866. Although ambiti
pass the Army medical board brings forward many of the most pr
ing graduates of the medical colleges, additional inducements of r
pay, and promotion are becoming more and more necessary, not on
make the number of candidates equal to the needs of the service, b
retain the most desirable of them in the service under their freq
inducements to accept advantageous offers in civil life. The acti
the American Medical Association, representing the medical profe
of this country, regarding the unequal position of medical officers c

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large voluntary contributions to the collections. These have now attained
importance, that few recent works on military medicine, surgery, and hygiene
omitted to refer largely to the rich and reliable stores of information gathered v
the walls of the museum.

It is now proposed to print an *anatomical* catalogue, in which the most imp
feature will be the craniological chapter. The measurement and comparison of h
skulls is an interesting and difficult branch of the natural history of man, whic
of late received much attention in the scientific world. It is a study that can o
pursued by a few anatomists, having access to large collections of crania, an
requisite experience and skill to measure accurately. Craniology, established
science by Blumenbach and Camper, was prosecuted in this country by Morton
great success. His work was published by subscription. The medical officers c
Army have collected a much larger series of American skulls than have ever l
been available for study. The collection embraces many ancient crania from
and tumuli, from Greenland and Alaska to Florida and Arizona, and specimens
the majority of the existing tribes of Indians, and of the extinct tribes of the hi
period. These, as well as a sufficient series of skulls of the white and black
have been carefully measured and figured by orthographic drawings, so tha
dimensions may be verified. Anthropologists in different parts of the world are an
for the data thus accumulated for comparison with similar data published in Sw
Russia, Germany, Italy, France, and England. The French government, throug
legation here, after making repeated applications for the tables of cranial mea
ments, employed an artist to make casts and take photographs of a series of ty
skulls; and a professor of Bonn made the study of the collection the object of a
across the Atlantic. I mention these facts as an indication of the importance c
collection in the eyes of foreign savants; but it is especially with a view of ena
scientific students in our own country to utilize the collection that I urge the pu
tion of this catalogue.

In addition to the unique collection of crania, the anatomical cabinet posse
good series of preparations and drawings of the various organs of the body, pro
classified and catalogued. To render these accessible to students, a printed cata
is simply a necessity.

I take what I trust may be esteemed a pardonable pride in the reflection that
important collection has been accumulated through the almost unaided zeal a
dustry of the medical officers of the Army, and, I was about to say, entirely wi
cost to the Government. It is true, however, that a few preparations have
obtained by purchase, but by far the largest proportion have been collected b
medical officers, or procured in exchange for objects of ethnological interest coll
by them.

If the members of the committee would contrast the results obtained wit
small annual appropriation of $5,000 for the Army Medical Museum with the con

rmy—as compared to that of other staff corps—is based upon actual
vestigation of the subject, and presents to Congress all the facts in
he case.

I can only urge most earnestly upon your attention the pressing and
bsolute necessity for such legislation as will secure to our officers and
oldiers the efficient and reliable attendance in wounds and sickness
hich the Government should provide, and will make a position in the
edical corps of the Army, now as formerly, an object of ambition to
he best educated and best qualified young men in the profession.

At the date of my last report there existed fifty-nine vacancies in the
edical department, viz: two assistant medical purveyors, four sur-
eons, fifty-two assistant surgeons, and one medical store-keeper. Dur-
g the past year one surgeon and one assistant surgeon have died,
nd three assistant surgeons have resigned; leaving at present sixty-
our vacancies in the corps, viz: two assistant medical purveyors, five
urgeons, fifty-six assistant surgeons, and one medical store-keeper.

J. K. BARNES,
Surgeon-General, U. S. A.

To the Hon. the SECRETARY OF WAR.

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foreign national museums, and the large sums annually voted them, the progress
ere accomplished would be appreciated, the results being possible only because the
bor has been performed, as incidental to their legitimate duties, by those already in
e Government service.

I have restricted myself to a concise statement of the importance of the proposed
talogue. Should the members of the committee desire more details, I would respect-
lly suggest that Assistant Surgeon Otis, who is familiar with them, should be granted
hearing before the committee.

I am, sir, very respectfully, your obedient servant,

J. K. BARNES,
Surgeon-General United States Army.

Hon. JOHN COBURN,
Chairman Committee on Military Affairs.

WAR DEPARTMENT, SURGEON-GENERAL'S OFFICE,
Washington, D. C., January 24, 1873.

SIR: I have the honor to forward the following estimate of cost of printing and
nding Catalogue of the Anatomical Section of the Army Medical Museum, viz:

For 1,000 copies:

lates and wood-cuts	$20,000
aper, composition, and printing	2,700
nding, in cloth	1,000
nding, in leather	2,500

For 5,000 copies the cost will be:

r plates	$38,000
aper, composition, and printing	7,500
nding, in cloth	5,000
nding, in leather	12,500
tal cost, 1,000 copies, in cloth	23,700
tal cost, 5,000 copies, in cloth	50,500

Very respectfully, your obedient servant,

J. K. BARNES.
Surgeon-General United States Army.

Hon. JOHN COBURN,
Chairman Military Committee House of Representatives.

The committee recommend the passage of the accompanying bill.

REPORT OF THE PAYMASTER-GENERAL.

REPORT

OF

THE PAYMASTER GENERAL.

PAYMASTER-GENERAL'S OFFICE,
Washington, October 10, 1873.

SIR: I have the honor to submit my annual report of the transactions the pay department of the Army for the last fiscal year ending 30th ne, 1873.

Tabular statements herewith inclosed show in detail the fiscal operons of the department for that year, summarily stated as follows:

RECEIPTS AND DISBURSEMENTS.

ance on hand at beginning of fiscal year, (July 1, 1872)		$2,289,221 94
eived during fiscal year from Treasury		14,008,477 95
eived from soldiers' deposits		209,850 38
cellaneous receipts		221,079 32
Total		16,728,629 59
bursed to the Army	$11,056,522 35	
bursed to the Military Academy	176,010 97	
bursed on Treasury certificates	1,936,230 16	
Total disbursements	13,168,763 48	
plus funds deposited in Treasury	1,188,467 30	
cellaneous receipts deposited	218,407 00	
ance in hands of paymasters June 30, 1873, to be ccounted for in next report	2,152,991 81	
Total		16,728,629 59

The most important matter which it is my duty to bring before you the imperative necessity of more paymasters. The sixth section of e act of 3d March, 1869, forbids any appointments and promotions in e staff of the Army until further legislation. The thirty-first section the act of 7th July, 1838, forbids the detail of officers of the Army as ting paymasters. Thus the Pay Department has not the resources of e Quartermaster's or Subsistence Departments; for details for temrary duty in those departments have always been made, as also for y of the other departments of the staff.

There are now sixteen vacancies in the Pay Department under the ganization provided by the act of 28th July, 1866, two in the rank of utenant-colonel and fourteen in the rank of major, five of these vancies occurring since my last annual report. The duties of paying the troops during the last year have been performed in as satisfac a manner as could be expected, considering the reduced number of masters. I shall do but simple justice to them when I say that have faithfully and efficiently discharged their duties, oftentimes in remote and exposed regions on the frontier. One excellent officer been lost at sea and two attacked by robbers (fortunately foiled in audacious attempts) during the last year, which facts exhibit dangers incident to their tours of duty. The War Department sh have it in its power to give respite and relief to many on remote tions, which can only be accomplished by an increase of the numb paymasters. But without reference to those considerations, an incr is needed for the absolute wants of the service.

I recommend that the number of paymasters be now establishe fifty-two instead of sixty as provided by law in the eighteenth sec of the act of 28th July, 1866, and a repeal of the interdict upon fu appointments and promotions. It is but just that the power of pr tion should be restored to the Executive; for what is an army staff corps good for, in which the principle of promotion is not re nized?

I recommend that a greater period than thirty days be allowed t officer on leave of absence without reduction or pay. Thirty barely suffices to enable an officer to travel from remote departmen the East and return. By the eleventh section of the act of 20th J 1864, it was enacted that "leave of absence for other cause than ness or wounds may be allowed an officer by order of his proper mander, without deduction from his pay and allowances: *Prov* That the aggregate of such absence shall not exceed thirty days in one year." A previous act (of 3d March, 1863) provided that th duction should be one-half the pay and allowances of the officer.

The only other legislation concerning the Pay Department whi recommend is, that the pay of paymasters' clerks should be increa It is now $100 per month. A large share of their duties is dischar in regions where the journeys are arduous and very dangerous—regi too, having many attractions to draw them from our employment. superior pay enjoyed by clerks of the Quartermaster's and Subsist Departments has often worked to the injury of the Pay Departm Expert clerks of this Department have resigned and gone into t Departments. This is but the natural effect of inadequate compe tion and of the existing inequalities.

The acts of 15th May, 1872, concerning the pay of the enlisted and establishing a system of deposits, have signally ameliorated t condition. But they have not yet reduced the number of desertion much as we had hoped. Still the number of desertions in the Arm the fiscal year ending 30th June, 1873, was five hundred less than in previous year, and one thousand less than in the year ending 30th J 1871. It would be difficult to devise legislation better calculated those acts to encourage re-enlistments, reward faithful service, and minish desertions. It may require the experience of several year develop their full effect upon the rank and file of the Army. Som the company commanders represent that the interest given for depo should have been established at 6 per cent., instead of 4 per cent., annum.

I append to this report a table exhibiting the average amount of posits per company during the fiscal year ending June 30, 1873, in various military departments. From this it appears that the lar amount of deposits per company was in the Department of Ariz iz, $1,583; next, in the Department of the Columbia, $717 per company. In these departments there was the greatest amount of field op-rations, the troops being in campaign against the Apaches and Modocs.

This shows, as I expected, that in time of war the most deposits will e made by the enlisted men. During the civil war such a system would ave given the Government the handling of many millions for years.)uring the last years of the war there were at least about 14,000 companies of troops employed. This, at the rate of $1,500 deposited by ach company, would have made $21,000,000 per annum.

During the year ending 31st August, 1873, $246,643 (or an average xceeding $20,000 per month) have been deposited, the use of which the -overnment will have for an average period of about two and one-half ears.

Respectfully submitted.

BENJ. ALVORD,
Paymaster-General United States Army.

The Hon. the SECRETARY OF WAR.

C.—*Soldiers' deposits in the fiscal year ending June* 30, 1873.

Department.	Number of troops.	Amount.	Average deposit per company.
epartment of Arizona	24 companies	$37,991 92	$1,583 00
epartment of the Columbia	21 companies	15,058 75	717 08
epartment of the Missouri	52 companies	32,542 70	625 82
epartment of Dakota	66 companies	35,443 75	537 03
epartment of Texas	78 companies	36,308 01	465 48
epartment of the Platte	70 companies	32,377 66	462 54
epartment of California	20 companies	5,668 75	283 43
epartment of the South	38 companies	9,491 50	249 77
epartment of the Gulf	20 companies	3,172 00	158 60
epartment of the Lakes	14 companies	830 00	59 28
epartment of the East	32 companies	900 34	28 13
'ashington, D. C	....	65 00	....
Total	435 companies	209,850 38	482 26

BENJ. ALVORD,
Paymaster-General United States Army.

Statement showing the amount in the hands of each of the disbursing officers of the from the Treasury or turned over by other agents, during the fiscal year ending Jun or replacement in the Treasury, and the balance remaining unaccounted for, to be ap

Paymasters.	Balances in hands of paymasters and unaccounted for July 1, 1872.	Remitted from the Treasury in the year ending June 30, 1873.	Transferred from other paymasters.	Received from other sources.	Soldi depo
Assistant Paymasters-General.					
Nathan W. Brown	$186,997 91	$2,113,849 86	$170,476 88	$259 63 6,829 82	$56
Daniel McClure	4,345 36	1,296,000 00	117,621 68	1,966 95	19
Deputy Paymaster-General.					
Cary H. Fry *	197,491 67	790,033 88	6,000 00	....	....
Paymasters.					
Franklin E. Hunt	176,799 66	1,549,000 00	8,517 46	1 91	
Henry Prince	38,629 08	....	575,895 60	5 83 5,327 51	28
Samuel Woods	101,416 12	142,500 00	457,641 19	2,040 81	30
Augustus H. Seward	94,556 60	1,216,400 00	181,055 12	1,265 88	19
Robert A. Kinzie	27,011 17	128,000 00	129,199 78	10 3,054 25	1,23
George L. Febiger	9,096 52	445,000 00	96,797 23	40 22 4,074 79	89
David Taggart	79,144 66	145,250 00	188,450 00	8 74 829 04	50
Henry C. Pratt	29,690 01	324,900 00	66,744 69	1,750 62	....
Simeon Smith	....	1,134,740 00	169,260 65	1,499 33	2
Charles T. Larned	107,185 02	3,689 78	3,200 00	108 28 119 11	....
Edward Wright	26,194 80	....	669,028 72	4,128 72	4
John P. Brua	14,609 15	....	185,884 46	369 88	....
Rodney Smith	6,632 08	....	271,071 07	3,347 11	7,29
Joseph H. Eaton	....	1,538,597 69	87,977 03	823 00 556 97	....
James B. M. Potter	102,471 41	....	236,923 08	1,963 39	2,74
George P. Ihrie †	58,529 67	....	34,800 97	135 63	3,55
William A. Rucker	15,531 47	21,000 00	206,688 96	2,220 58	2,77
Robert C. Walker	45,151 45	....	220,220 77	2,811 73	4,55
William H. Johnston	....	....	204,472 00	2,561 69	2,27
William R. Gibson	38,791 27	1,361,000 00	138,621 52	31 60 7,575 78	5,02
Charles J. Sprague	16,049 24	....	329,542 11	253 10 3,521 20	2,31
Thomas H. Halsey	4,462 41	....	66,048 42	676 76	69
William B. Rochester	80,440 67	55,059 82	364,745 83	10,221 68	85
Henry B. Reese	21,398 34	....	152,980 25	5,078 14	3,61
Nicholas Vedder	40,749 48	....	319,010 39	3,119 26	27
Edwin D. Judd	8,853 98	....	189,961 11	7,798 17	1,97
Valentine C. Hanna	37,630 06	87,500 00	206,803 18	1,758 03	83
William Smith	85,152 58	....	336,380 69	5,858 70	13,33
Charles M. Terrell	70,119 52	....	467,822 96	8,455 13	9,25
Thaddeus H. Stanton	2,514 96	534,953 92	272,218 93	9,593 47	11,02
George E. Glenn	27,477 14	....	217,875 70	10,697 53	12,27
Brantz Mayer	2,976 98	....	123,500 00	2,955 28	2,50
James W. Nicholls	75,906 96	....	300,070 44	6,616 05	5,00
Robert D. Clarke	52,880 25	651,000 00	103,645 55	3,566 07	6
James H. Nelson ‡	236 46	237,238 00	104,654 60	337 92 9,713 32	21,99
John S. Walker §	11,081 82	....	66,773 35	114 00 388 20	1,40
Charles W. Wingard	13,869 51	....	61,948 00	539 50	2,17
James P. Canby	16,239 55	....	296,699 81	8,121 83	2,82
P. P. G. Hall	70,610 42	....	313,441 46	50 00 14,602 10	6,28
George W. Canbee	3,568 51	....	417,833 89	7,534 70	10,06
Edwin H. Brooke	48,696 93	....	275,806 55	8,090 18	8,94
Israel O. Dewey	44,151 44	....	269,850 67	6,401 66	12,07
James R. Mears	12,867 48	....	350,377 79	5,072 89	2,00
Robert Morrow	6,035 59	232,765 00	147,162 37	34 39 6,852 42	13,68
Asa B. Carey	23,033 68	....	188,161 22	3,262 39	9,87
William P. Gould	52,784 89	....	206,419 27	2,885 29	5,74
Frank Bridgeman	32,044 07	....	180,742 43	4,838 30	6,83
David Taylor	37,691 63	....	243,083 06	4,645 78	2,23
V. S. Eggleston	28,422 31	....	105,289 97	1,716 98	7,11
Total	2,289,221 94	14,008,477 95	11,105,398 86	221,079 32	209,85

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* Died March 5, 1873.

† Resigned July 1, 1873.

partment and unaccounted for on the 1st of July, 1872; the amount remitted to each
73; the amount accounted for by accounts and vouchers of expenditures, or by transfer,
unpaid dues for service rendered in the fiscal year ending June 30, 1873.

tal received and to be counted for.	Expenditures.	Amount replaced in the Treasury.	Amount of miscellaneous receipts deposited.	Transferred to other paymasters.	Total amount accounted for.	Balance in hands of paymasters June 30, 1873.
2,478,980 19	$614,644 88	$89,000 00	$6,829 82	$1,591,628 53	$2,302,103 23	$176,876 96
1,420,128 99	145,333 65	51,610 92	1,966 95	1,137,507 02	1,336,418 54	83,710 45
993,525 55	9,406 02	208,785 65	....	775,333 88	993,525 55	....
1,734,319 03	5,415 61	170,893 89	1 91	1,453,936 86	1,630,248 27	104,070 76
620,147 27	515,286 10	....	5,327 51	50,259 34	570,872 95	49,274 32
703,898 12	279,092 40	55,125 92	2,040 81	328,614 08	664,873 21	39,024 91
1,493,477 43	133,294 03	115,069 29	1,265 88	1,048,033 35	1,297,662 55	195,814 88
288,500 30	243,180 69	16,522 26	3,054 25	192 15	262,949 35	25,550 95
555,903 76	296,410 31	6,911 44	4,074 29	229,578 80	536,975 34	18,928 42
414,188 19	80,677 78	68,349 80	829 04	264,331 57	414,188 19	....
423,085 32	159,843 03	32,500 00	1,750 62	203,532 17	397,625 82	25,459 50
1,305,524 98	310,130 05	42,710 76	1,499 33	951,184 84	1,305,524 98	....
114,302 19	36,248 13	....	119 11	77,934 95	114,302 19	....
699,397 24	658,304 46	....	4,128 72	36,964 06	699,397 24	....
200,863 49	159,769 75	....	369 88	40,723 86	200,863 49	....
288,344 86	168,623 06	279 71	3,347 11	84,254 01	256,503 89	31,840 97
1,627,954 69	1,368,847 96	425 00	556 97	90,171 34	1,460,001 27	167,953 42
344,102 88	144,643 59	85,000 00	1,963 39	97,499 98	329,106 96	14,995 92
98,021 27	37,108 63	....	135 63	60,777 01	98,021 27	....
248,220 01	170,614 54	....	2,220 58	29,257 58	202,092 70	46,127 31
272,734 10	203,855 59	291 00	2,811 73	26,300 00	233,258 32	39,475 78
209,310 69	148,849 91	....	2,561 69	47,755 70	199,167 30	10,143 39
1,551,040 93	345,746 28	90,000 00	7,575 78	1,031,965 33	1,475,287 39	75,753 54
351,676 40	104,846 93	31,390 05	3,521 20	204,447 10	344,205 28	7,471 12
71,882 59	58,880 60	144 46	676 76	12,180 77	71,882 59	....
511,323 00	402,071 61	32,000 00	10,221 68	54,319 06	498,612 35	12,710 65
183,071 73	141,325 00	4 10	5,078 14	32,299 54	178,706 78	4,364 95
363,154 13	299,214 45	25,162 63	3,119 26	8,060 62	335,556 96	27,597 17
208,587 26	134,197 94	....	7,798 17	3,134 15	145,130 26	63,457 00
334,521 27	257,604 93	....	1,758 03	63,465 33	322,828 29	11,692 98
440,724 14	260,594 65	100 80	5,858 70	149,774 39	416,328 54	24,395 60
555,651 14	307,895 22	....	8,455 13	66,679 84	383,030 19	172,620 95
830,301 77	755,163 15	8,000 00	9,593 47	52,007 46	824,764 08	5,537 69
268,326 62	194,632 00	....	10,697 53	26,788 51	232,118 04	36,208 58
131,934 01	117,058 83	5,568 09	2,955 28	3,083 24	128,665 44	3,268 57
387,599 45	310,585 43	....	6,616 05	24,671 88	341,873 36	45,726 09
811,156 87	640,328 43	....	3,566 07	123,277 85	767,172 35	43,984 52
374,175 77	247,270 84	....	9,107 81	1,185 37	257,564 02	116,611 75
79,761 37	58,215 52	....	388 20	....	58,603 72	21,157
78,529 01	61,602 38	8,574 18	539 50	6,000 00	76,716 06	1,812 95
323,887 69	250,601 75	346 40	8,121 83	64,342 07	323,412 05	475 64
404,991 98	267,529 51	....	14,602 10	79,301 95	361,433 56	43,558 42
439,004 10	279,791 34	....	7,534 70	123,134 59	410,460 63	28,543 47
341,539 66	279,597 06	11,237 98	8,090 18	1,613 30	300,538 52	41,001 14
332,482 41	259,379 24	4,113 80	6,401 66	9,400 00	279,294 70	53,187 71
370,318 16	313,845 75	....	5,072 89	8,216 52	327,135 16	43,183 00
406,535 47	242,659 57	....	6,852 42	106,986 77	356,498 76	50,036 71
224,327 29	134,953 75	10,390 27	3,262 39	63,986 35	212,592 76	11,734 53
267,832 45	110,429 75	....	2,885 29	83,156 22	196,471 26	71,361 19
224,462 25	144,457 72	3,000 00	4,838 30	24,511 00	176,807 02	47,655 23
287,755 72	187,607 79	14,906 60	4,645 78	35,288 57	242,448 74	45,306 98
142,543 26	111,095 89	52 30	1,716 98	16,350 00	129,215 17	13,328 09
7,834,028 45	13,168,763 48	1,188,467 30	218,407 00	11,105,398 86	25,681,036 64	2,152,991 81

‡ $605 51 of miscellaneous receipts not deposited.

§ Lost at sea January 27, 1873.

BENJ. ALVORD.
Paymaster-General, U. S. A.

Statement of the account of the Pay Department with the several app

Appropriations.	Balance July 1, 1872.	Amount of appropriations.	Surplus funds deposited by paymasters.	Miscellaneous receipts deposited by paymasters.	Amounts covered in by credit requisitions in set-
Definite.					
Subsistence of officers	$1, 044, 142 99			$1, 015 00	$2, 632, 2
Forage for officers' horses	594, 135 93				13, 4
Pay in lieu of clothing officers' servants	216, 393 41			6 96	
Pay to discharged soldiers, clothing not drawn	385, 518 19				25, 0
Subsistence of officers at Military Academy	14, 706 58				
Pay in lieu of clothing officers' servants at Military Academy	246 54				
Pay of two and three years' volunteers	143, 876 92			1, 477 17	16, 475, 4
Bounty to volunteers, widows, and legal heirs	3, 514, 430 29				3, 896, 8
Pay of militia and volunteers	283, 136 17				283, 4
Pay and bounty, officers and men, Department of Missouri	188, 982 03				
Pay, &c., one hundred days' volunteers	4, 274, 877 68				500, 0
Payment of expenses, reconstruction acts	143, 986 29			10	
Bounty to volunteers and regulars on enlistment	1, 987, 805 93				2, 582, 1
Forage for officers' horses at Military Academy	7, 422 78				
Incidental expenses of Quartermaster's Department	64, 695 75			65 22	
Pay of the Army prior to July 1, 1871	4, 436, 480 20		$17, 756 94	8, 666 02	1, 189, 9
Pay of the Military Academy prior to July 1, 1871	464, 610 67			299 94	
Transportation of officers and baggage prior to July 1, 1871	81, 724 11			250 40	18, 1
Total	17, 847, 172 46		17, 756 94	11, 780 81	27, 616, 6
For fiscal year ending June 30, 1872.					
Pay of the Army	630, 392 38		1, 177, 149 59	21, 183 61	
Mileage	625 50		19, 924 17	2, 184 36	
General expenses	90 39	$6, 000 00	26 01	124 75	
Pay of the Military Academy	47, 775 50		4, 000 00	1, 498 25	
Total	678, 883 77	6, 000 00	1, 201, 099 77	24, 990 97	
For fiscal year ending June 30, 1873.					
Pay of the Army		12, 105, 591 32	19, 898 08	11, 549 67	
Mileage		315, 000 00		549 60	
General expenses		175, 000 00		4 19	
Pay of the Military Academy		222, 937 50		16 19	
Total		12, 818, 528 82	19, 898 08	12, 119 65	
Indefinite appropriations.					
Bounty act July 28, 1866		11, 144, 736 11			
Traveling expenses, California and Nevada volunteers		28, 000 00			
Traveling expenses, Michigan volunteers		500 00			
Total		11, 173, 236 11			
Aggregate.					
Definite appropriations	18, 526, 056 23	12, 824, 528 82	1, 238, 754 79	48, 891 43	27, 616, 6
Indefinite appropriations		11, 173, 236 11			
Total	18, 526, 056 23	23, 997, 764 93	1, 238, 754 79	48, 891 43	27, 616, 6

ons subject to its control during the fiscal year ending June 30, 1873.

Repayments in settlement of accounts.	Total.	Amount drawn by requisitions of Pay Department.	Amount drawn by requisitions of War Department.	Amount drawn by debit requisitions in settlement of accounts.	Total.	Balance July 1, 1873.
$133 13	$3,677,505 65	....	$1,001,692 67	$86,736 82	$1,068,429 49	$2,589,076 16
2 50	607,545 90	....	757 80	....	757 80	606,788 10
4 27	216,404 64	....	139,725 66	42,178 71	181,904 37	34,500 27
....	410,518 19	....	92,671 20	106,828 09	199,499 29	211,018 90
....	14,706 58	....	7,893 16	....	7,893 16	6,813 42
....	246 54	....	....	....	....	246 54
1,972 28	16,652,782 42	$273,873 10	4,126,713 88	3,236 76	4,403,823 74	12,248,958 68
5,369 47	7,416,695 04	1,077,577 90	4,705,614 35	1,516 75	5,784,709 00	1,631,986 04
....	566,613 64	....	....	....	....	566,613 64
....	188,982 03	....	....	....	....	188,982 03
....	4,774,877 68	....	4,274,877 68	....	4,274,877 68	500,000 00
20	143,986 59	59 82	16,444 81	297 64	16,802 27	127,184 32
168 00	4,570,099 52	....	128 00	....	128 00	4,569,971 52
....	7,422 78	....	....	....	....	7,422 78
....	64,760 97	....	2,671 49	....	2,671 49	62,089 48
241 48	5,653,123 52	27,000 00	2,542,511 19	394,887 27	2,964,398 46	2,688,725 06
....	464,910 61	....	334,653 64	....	334,653 64	130,256 97
....	100,087 11	....	4,218 73	....	4,218 73	95,868 38
7,891 33	45,531,269 41	1,378,510 82	17,250,574 26	635,682 04	19,264,767 12	26,266,502 29
12	1,828,725 70	24,000 00	307,937 40	284 64	332,222 04	1,496,503 66
....	22,734 03	....	....	....	....	22,734 03
....	6,241 15	6,090 39	....	....	6,090 39	150 76
....	53,273 75	....	....	....	....	53,273 75
12	1,910,974 63	30,090 39	307,937 40	284 64	338,312 43	1,572,662 20
....	12,137,039 30	11,220,993 54	90,058 43	1,022 00	11,312,073 97	824,965 33
....	315,549 60	289,133 20	....	....	289,133 20	26,416 40
....	175,004 19	139,250 00	....	....	139,250 00	35,754 19
....	222,953 69	179,000 00	....	....	179,000 00	43,953 69
....	12,850,546 78	11,828,376 74	90,058 43	1,022 00	11,919,457 17	931,089 61
2,387 80	11,177,123 91	563,000 00	10,612,351 61	1,772 30	11,177,123 91	....
....	28,000 00	28,000 00	....	....	28,000 00	....
....	500 00	500 00	....	....	500 00	....
2,387 80	11,205,623 91	591,500 00	10,612,351 61	1,772 30	11,205,623 91	....
7,891 45 2,387 80	60,292,790 82 11,205,623 91	13,236,977 95 591,500 00	17,648,570 09 10,612,351 61	636,988 68 1,772 30	31,522,536 72 11,205,623 91	28,770,254 10 ....
0,279 25	71,498,414 73	13,828,477 95	28,260,921 70	638,760 98	42,728,160 63	28,770,254 10

BENJ. ALVORD,
Paymaster-General United States Army.

REPORT OF THE CHIEF SIGNAL-OFFICER.

REPORT

OF

THE CHIEF SIGNAL-OFFICER.

WAR DEPARTMENT,
OFFICE OF THE CHIEF SIGNAL-OFFICER,
Washington, D. C., November 1, 1873.

SIR: Instruction in military signaling and telegraphy has continued
uring the past year at the Signal-School of Instruction and Practice at
ort Whipple, Va.

One of the officers at the Military Academy at West Point is designated
instructor of military signals and telegraphing, but no report has been
ceived from him, and it is not known what proportion of study and
actice is allotted the several branches under his charge. Experience
ads to the belief that the whole time of a skilled and industrious officer
ould be occupied by a course of instruction of the cadets at West Point,
hich should insure to them that proficiency in military signaling and
legraphy requisite to maintain equality in these branches with the of-
cers of European services, or to be of any practical value to the Army
the United States. The recommendation made in previous reports
at more special instruction at the Military Academy should be pro-
ded for, with a merit value affecting the standing of the cadets, is re-
wed, and it is also suggested that, to secure accuracy and uniformity,
e officer to be in future charged with that instruction should have
ssed the course at Fort Whipple. There has been a partial instruc-
on in the Department of the Missouri, under the charge of Second Lieut.
hilip Reade, Third United States Infantry, and acting signal-officer of
at Department. Although this officer has not had the advantage
the course provided at Fort Whipple, his industry and zeal have
en attended with good results. His reports show fifty five officers to
ve been fully, and ninety-seven partially, instructed, and one hundred
d two enlisted men fully, and three hundred and ten partially, in-
ructed during the year.

The only full and regular course of instruction, that at Fort Whipple,
s continued to be under the immediate direction of First Lieut. C. E.
ilbourne, Second United States Artillery, acting signal-officer, who
s proved faithful and efficient. The report of commissioned officers
structed, (six in number,) with their respective amounts of field-prac-
ce, is given in Papers 1 and 2, hereto attached. The number of private
ldiers instructed, as candidates for promotion to the grade of observer-
rgeant, has been sixty-seven, and of those instructed as assistants to
server-sergeants, one hundred and twenty-seven. The details of their
struction, examination, promotion, and duty are presented in Papers
and 4.

The Signal-School of Instruction and Post of Fort Whipple, Va., has,
uring the year, assumed a character of permanence which has been
uch desired. New barracks, a mess-hall, a guard-house, and stables

have been erected; and two buildings for officers' quarters, a buil for the purposes of instruction, and a wagon-shed for the field-teleg train, are in progress of construction. The hospital has proved a for the requirements of the command, and has been well managed u the charge of Acting Assist. Surg. L. W. Ritchie. A large amou work has been performed in the leveling and preparation of the gr occupied by the old fortifications. To complete the equipment of the in addition to the need for a commissary and quartermaster store-h a wagon-shed for quartermaster wagons, and stabling for neces public animals, a pressing want is felt for officers' quarters, those provided not being sufficient for the number of officers regularly on and under instruction. The Fort has become of interest to, and i quently visited by, distinguished American citizens and officers of fo governments. It is desirable that the War Department, always sidered responsible for its existence, should provide for it as a credit and representative post. The care of the Secretary of War has already directed to the comfort of the enlisted men. His favorable sideration is now asked to secure the requisite accommodation fo officers and the protection of the public property.

The field-telegraph train has been greatly improved, and drills it are regular and satisfactory, having been under the special dire of First Lieut. R. P. Strong, Fourth United States Artillery, acting nal-officer, who has, during the year, been in immediate charge of post, and has shown much energy in the performance of the duties fided to him. The other drills of the signal-service detachment, signal equipments, and with, as well as without, arms, have been thor and through increased facilities as well as numbers discipline has advanced. The system of duty and practice at Fort Whipple give military training necessary for the duties of the signal-service, a imparts the accurate understanding of the special branches for whi has been established. It is the sole place in the United States where e commissioned officers or enlisted men can be completely instructed tested in a branch of the military profession now recognized to b prominent importance in time of war, and of no less utility in tim peace.

The study of military signaling and telegraphy requires that the dent shall have the example and illustration of a skilled master would be unwise, in providing for the instruction of the Army ignore the thorough and well-appointed school already established, to expect much benefit from the mere issue of text-books and e ments, where teacher and taught are alike ignorant. The plan, at time suggested, that post-adjutants should become instructors, proved a failure.

During the past year a number of officers have applied to b structed at Fort Whipple; but the absence of any arrangement fo tails has prevented, for the time, a favorable consideration of t requests. It is desirable that a system of details should be establis The proper discharge of the duties of the field signal-service sin *i. e.*, those embracing only such knowledge of military signaling telegraphy as is constantly requisite at our frontier posts and for In wars, in time of general peace, or in the field during war, requir special tuition of at least sixth months' duration, and officers of e regiment and company ought to pass through the course as a pa their requisite military study. The signal-service is an armed or ization, and often needs the disciplined use of arms. Drills with a the movement of armed bodies, and the care of troops are as cons ent a portion of the duties at Fort Whipple as at any post of the Army, and the officers ordered there need lose nothing of their military practice. It is recommended that six officers, to be selected by the Secretary of War, upon the recommendation of their regimental and departmental commanders, be detailed for instruction in the duties of the ‘field” signal-service alone, as distinguished from the full duties of that service. These officers to rejoin their commands upon the completion of the course, their places to be supplied through other details, published in advance, in the manner customary in details for artillery instruction. The time of instruction would average about six months.

The officers so to be detailed should, however, be held to be of a class distinct from those charged with the full duties of the signal-service. The full duties of the signal-service include those applicable to peace as well as to war, and to attain proficiency in them the whole time of an officer, during years of study and application, is requisite. They comprise the duties of the field signal-service above described, and also all the duties of the service in relation to the display of warning signals, giving notice in advance of storms and floods. The latter involve the study of meteoric indications, and the practice and habit of controlling the organization spread over the United States; of managing the taking, telegraphing, receipt, collocation, and publication of reports from the different stations; of deducing correct results from them, and of giving necessary warnings, by signals or otherwise, when danger threatens. The value of the officer constantly increases with the experience had in the observation of storms, the study of meteoric indications, and the correct ordering of signals. To fulfill it reliably, the employment of a selected officer, once placed upon this duty, must be permanent. Provision should be made for such permanent employment for the same reason as it is made for the permanent employment of officers of the engineers and of ordnance. It will be fatal to the service if it is attempted to perform its duty by temporary details. The detail of officers for the duties of the full signal-service, as distinguished from the field signal-service, should, therefore, be regarded as almost necessarily permanent, and it should be made with the expectation of being permanent, until such time as Congress shall provide an established organization, to prevent the accidents and imperfect working to which a temporary service is always liable. The urgent need of such legislation is again presented for the consideration of the Secretary of War.

In the last annual report mention was made of the hardship involved in the fact that the officers detailed for the duties of this service were subjected to the misconstruction, and sometimes to the injustice, of those from whose commands they are involuntarily separated. Applications are frequently pressed to bring about the relief of officers, by persons wholly ignorant of their duties, which, if successful, would seriously embarrass the execution of the work required by law. It ought not to remain possible, through neglect of legislation, that the whole machinery of the signal-service should stop in an hour, as might already have happened had not the wise discretion of the Secretary of War been exercised to prevent so great a misfortune. Justice would seem to require that a service which has existed, and with admitted good result to the United States, for now thirteen years as a temporary service, and on which officers have served continuously through details of ten years' duration, in peace and in war, living and dying in this service alone, should be held to have established a claim to permanency. With interests now depending upon its daily work as great as can by any possibility rest upon any other branch of the service, there is no but upon which it may be embarrassed, or even fatally crippled, by removal of its skillful men at the junctures at which their services most needed. The War Department, while held rigidly responsible the failures of the service, has not yet been granted the legislatio provide for its proper discharge.

Recruiting for assignment to the signal-service has been condu under the direction of the War Department, that the recruiting offi of the general recruiting service at designated stations should enlist order to this office such men, they passing the required physical exa nation, as may be presented to them by the recruiting observer- geants of the signal-service. While the popularity of the service been remarkable, its requirements are not always understood by th who apply to be enlisted. So much trouble has been occasioned to Secretary of War by recruits complaining of the military duties sidered by this office essential, that a series of circulars and instructi shown in Papers 5 and 6, and paragraph 144 of Paper 7, hereto anne have been prepared and so brought to the notice of every applicant enlistment, the recruiting sergeant, and the recruiting officer, that apprehension seems to be impossible. The recruits are divided classes, those for the "full" and those for the "field signal-servi The first mentioned are such as, in the judgment of the observer- geant, after examination by him, are fitted by education and intellig for the full duties of the signal-service, including not only the du connected with field-signals and telegraphy, but the duties of obser at stations of observation. These men are placed on duty at Whipple, Va., as private soldiers of the signal-service detachment th stationed, for at least two months, after which they have the privi on their own application, their conduct being good, of appearing be a board of officers as candidates to be placed under the tuition ne sary to be assistants to observers on stations. Passing this examina the soldier continues the course, still performing his military du until such time as he is reported by the instructor competent to b assistant. He may then be detailed on duty as an assistant to an server on station. After six months' service satisfactorily rendered such assistant, during which time he recites regularly to the obse in charge, and upon a favorable report, he may be ordered to Whipple to be placed under the additional special instruction give candidates for the grade of observer-sergeant. This additional inst tion lasts about two months, during which the candidate must serv four tours of guard duty. Upon its completion he is ordered befo board of officers convened at this office for final examination on the cial subjects of the instruction, and also before another board conve at Fort Whipple for report on his proficiency in the drill (with and w out arms) and duties of the signal service detachment, and his un standing of the military duties and responsibilities of sergeants in signal-service, this examination embracing the more essential of the ticles of War, Army Regulations, and customs of the service applica to the duties of the grade above mentioned. On passing both of th boards, the candidate, as vacancies occur, is promoted to be sergean the signal-service, but, as a rule, is obliged to serve one month at Whipple before being ordered on station, during which period, in a tion to his other duties, he takes, under the direction of the instruc such observations and makes such records and reports as may keep familiar with the duties of an observer.

Applicants who, in the judgment of the recruiting observer-serge re not fitted by education and intelligence for the full duties of the signal-service, but who are of such ability and character as to render them ualified for its field duties, *i. e.*, those of field-signals and telegraphy, s distinguished from those including the duties of observer-sergeant, re presented to the recruiting officer for enlistment to and assignment o the "field signal-service." The recruits so enlisted are not precluded rom eventual advancement to the full duties of the signal-service and romotion, in case they prove fit and worthy.

A division is also made, after enlistment, among the private soldiers, y which those of good conduct, who pass specified examinations in elementary education, military signaling and telegraphy, and the duties nd drill (with and without arms) of soldiers of the signal-service detachment, are announced as privates of the first class, and wear the pecial designation in uniform provided for them in General Orders 92, Var Department, Adjutant-General's Office, dated October 26, 1872.

The propriety of legislation which will establish, as a special grade, hat of the observer-sergeants of the signal-service, is urged upon the onsideration of the Secretary of War. Very many of these men have nlisted with the hope that Congress will, in an organization of the signal-service, improve their position. This hope ought to become a realization. The great majority of the men of this service have enlisted for t directly under the promise, authorized by the Secretary of War, that hey shall not be transferred to any other branch of the Army. They either have nor would have enlisted under the general recruiting regulations, and without the promise above referred to the work intrusted o this office could not have been done.

In this connection it is proper to add that the action of the President n the promotion of observer-sergeant Theodore Smith to a lieutenancy n the Army, for good conduct, has been highly beneficial to the service.

The systematic course by which the enlisted men are selected, drilled, xamined, instructed, tested by practice, instructed in higher branches, gain examined and again tested before being intrusted with the management of stations, has thrown much labor upon the several boards of xamination. The preliminary board, convened at this office for the examination of applicants to be placed under the first course of instruction, is composed of Bvt. Lieut. Col. Garrick Mallery, acting signal-officer and assistant, Bvt. Capt. H. W. Howgate, acting signal-officer and assistant, and Second Lieut. David J. Gibbon, acting signal-officer. This board has held a session on every Thursday during the year, nd has examined (including re-examinations) three hundred and one pplicants.

Of the civilians, whose enlistment depended upon the result of their xaminations, eighteen were accepted, a much larger number being rejected. The proportion of those already enlisted, whose examinations vere satisfactory, has exhibited the good judgment of the observer-sergeants who selected them, one hundred and twenty-one having passed he board, while but fourteen are in the list of failures, some of whom nay yet pass on another examination.

The board convened at this office for the examination of candidates or promotion to the grade of observer-sergeant is composed of Bvt. ieut. Col. Garrick Mallery, acting signal-officer and assistant; First ieut. C. E. Kilbourne, acting signal-officer and instructor at Fort Vhipple; and Bvt. Capt. H. W. Howgate, acting signal-officer and ssistant. This board meets from time to time, as the instructor at Fort Vhipple reports candidates ready for examination, and has examined during the year fifty-two candidates, of whom all but two have passe and been promoted.

The board convened at Fort Whipple for examination in the gener duties of soldiers and non-commissioned officers, and the special drill the signal-service is composed of First Lieut. George S. Grimes, Secon United States Artillery; First Lieut. C. E. Kilbourne, Second Unit States Artillery; and First Lieut. C. C. Wolcott, Third United Stat Artillery, all acting signal-officers.

The morning report of Fort Whipple for September 30 includes sixte non-commissioned officers and one hundred and thirty-one privates present. Of these, seven non-commissioned officers and thirty-sev privates are under special instruction.

The work done at this office has become of large amount, comprehen ing many details. Never ceasing for a moment, it is necessary that liefs of officers and enlisted men shall be so arranged that each sh take up his duty at a particular point and perform it in the mann prescribed. At once the greatest expedition and minuteness are quired, both of which can only be obtained by a number of perso working at the same time on different parts of the same general dut with a system of checks and counter-checks to prevent error, or at on to detect its cause and the responsibility for it. The experience th far obtained has resulted in the issue of regulations and rules for t government of the office, (Paper 8,) to which attention is invited.

Bvt. Lieut. Col. Garrick Mallery, acting signal-officer and assista has continued during the year to have charge of records, general co respondence and orders, with the superintendence of enlistments a other details specially assigned to him. The various duties in his ca have been faithfully discharged.

The correspondence of the office in its several divisions is extensiv forty-six thousand four hundred and thirty-two letters having been se and two hundred and seventeen thousand five hundred and seventy-fi received during the year, the record of which is classified in Paper The aggregate of the correspondence is two hundred and sixty-fo thousand and seven letters and documents sent and received, exclusi of publications and telegrams. The numerous requests for informati on subjects, some only indirectly connected with the duties of this offic require of themselves much attention.

The office is in communication with many foreign corresponden The following-named below in order of time are some of those who hav at their request, been regularly furnished with copies of the weath maps and bulletins, viz, Robert Scott, esq., director Meteorological Offic London, England; Professor Buys Ballot, director Meteorological I stitute of the Netherlands, Utrecht, Holland; Professor H. Mohn, direct Royal Meteorological Institute of Norway, Christiania, Norway; Capt. Hoffmeyer, director Royal Meteorological Institute of Denmark, Cope hagen, Denmark; Professor Dr. Prestel, Emden, Germany; Monsieur Ma Davy, chef de la division météorologie de l'Observatorie physique ce tral de Montsouris, Paris, France; Monsieur Harold Tarry, vice-pr ident Meteorological Society of France, Paris, France; Imperial G man Naval School at Kiel, Germany; His Majesty the King of Würte burg, Stuttgart, Germany.

First Lieut. Henry Jackson, acting signal-officer and assistant, h continued to discharge the duties of property and disbursing officer wi skill and industry. Seven thousand nine hundred and eighty-ni accounts have been examined and settled in the property division, cluding those of officers of the Army responsible for signal proper vhich number four hundred and seven. Six hundred and six instrunents have been purchased, and six hundred and twelve issued. (Paper 0.) Lieutenant Jackson has also continued the collection of statistics o complete the lists of elevations above sea-level, requisite for the accuate reduction of meteorological observations. There have been added his year sixty-three levels of lines of railroads received from railroad ngineers, seven lines of levels received from civil engineers, fourteen evels collected from other sources.

The library of the office has been increased to two thousand four hundred and seventy bound volumes, exclusive of two hundred and thirty pamphlets, and one hundred and two maps and charts. The works are elected wholly for their value to the scientific branches connected with he duties imposed upon it, and many of them have been obtained without expense to the United States through the system of exchanges estabished. Paper 11 is a list of the foreign contributions to the library.

The act of Congress approved March 3, 1873, entitled "An act making ppropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, eighteen hundred and seventy-four, and for other purposes," contained the following proviso: "Provided that the chief signal-officer may cause to be sold any surplus maps or publications of the signal-office, the money received therefor to be applied toward defraying the expenses of the signal-service, an account of the same to be rendered in each annual report of the chief of the signal-service." This account is presented in Paper 12, being exclusively for the amounts received for the sale of maps.

Until recently, the office has not been able so far to increase the issue of its publications as to allow of any considerable surplus, nor have persons interested yet become generally aware of their privilege to obtain, at a trifling expense, the publications which before had been applied for and necessarily refused. It is believed that the above provision will lead in future to a wide distribution of meterological knowledge without expense to the United States.

Bvt. Capt. H. W. Howgate, acting signal-officer and assistant, has continued to have general charge of instruction and general supervision of the observer-sergeants and assistants to observers at stations, and of the receipt, record, and publication of the weather reports, which duties, ogether with others specially assigned to him, have been performed vith marked devotion and ability.

The following record of stations is reported by this officer:

ALPENA, MICHIGAN.

[*Official Number*, 85.]

Latitude	45° 05′
Longitude	83° 30′
Elevation of barometer above sea-level	608 feet.

The location of the office has not been changed since the date of the ast report, and Sergt. F. P. Bayes still remains in charge, having given general satisfaction by the manner in which his reports have been rendered.

The station was inspected in March, and such trifling irregularities as vere discovered by the inspector promptly corrected.

Cautionary signals are not displayed here on account of the uncertainty of telegraphic communication, although a favorable point for hem; but warnings are sent to the observer to notify the shipping whenever danger is anticipated, and these warnings have been attende with beneficial results.

The several instruments are well located. The instrument shelter ha been moved from the window to the roof of the building, and thoroughl painted.

Bulletins are not issued, as no reports from other stations are r ceived; but the regular reports are published in the weekly papers in condensed form.

AUGUSTA, GEORGIA.

[*Official Number*, 23.]

Latitude	33° 28′
Longitude	81° 54′
Elevation of barometer above sea-level	172 fee

No change has been made in the location of the office since the la report, nor is any considered necessary at present. Sergeant N. D. Lan and Private Frank Mangels, both of whom were on duty at last repor still remain, and have given satisfaction.

The station was inspected in February, and found in good conditio with the exception of some slight irregularities, which were correcte immediately, when pointed out.

The instruments are well exposed and in good condition.

The only reports received are those from the Western Gulf station which are here transferred to Washington.

During the year four hundred and eighteen bulletins of local obse vations have been furnished the press, and published, in addition to th regular monthly means of barometer and thermometer, amount of rai &c.

The afternoon Probabilities are received regularly, and printed in th newspapers on the morning of the day succeeding their issue from th central office.

BALTIMORE, MARYLAND.

[*Official Number*, 18.]

Latitude	39° 18′
Longitude	76° 38′
Elevation of barometer above sea-level	45.19 fee

No change has been made during the year in the location of the office but an additional room was furnished the observer in February free o cost, through the courtesy of the Baltimore Fire Insurance Company This room is immediately adjoining the office, and adds materially t the comfort of the observer and to the facilities for the proper discharg of his duty.

The station was inspected in February last and found in excellen condition. As the inspector reported the men overworked, another as sistant was ordered to the station March 1, and since that date tw assistants have been on duty. Sergt. H. J. Penrod still remains i charge, and has performed his duties conscientiously and satisfactoril Private Otto Schutze, the assistant at the date of the last report, an his successor, Private J. W. Craig, were both called in for promotio during the year, and passed a successful examination. Private Mar Downing was relieved for misconduct September 8, and is now a

Fort Whipple on signal duty. Privates F. Anderson and Charles Freyer are the present assistants.

Full reports have been received during the year from all stations, and urnished to the press, in addition to the usual publications in the form f bulletins and maps. Until November 22, 1872, manifold maps were ssued; but since that date printed maps have been sent from the central office, and are received for distribution by 2 p. m., daily. This change has given general satisfaction, as the morning Probabilities, printed in these maps, are received in advance of the issue of the afternoon papers containing them.

During the year twelve thousand eight hundred and eighty-seven maps and four thousand seven hundred bulletins have been issued, and ix hundred and forty-five reports furnished to the press. All the daily papers publish the Synopsis and Probabilities with regularity, and have manifested a gratifying interest in the service at all times.

The observer states that inquiries concerning the weather are made daily at the office, and that mechanics, artists, merchants, sailors, invalids, physicians and surgeons are to a greater or less extent governed by the Probabilities received from the central office in pursuing their daily avocations.

Twenty-one cautionary signals were displayed during the year, of which nine are reported by the observers as justified in the immediate vicinity of the station.

As to known benefits to commerce or other interests the observer remarks as follows:

October 24–26, 1872.—Sailing-vessels took the warning and remained in port.

March 9–10.—Some damage was done in the more exposed portions of the city to nfinished buildings.

March 15–17, 1873.—Considerable damage was done by the storm to some unfinished buildings in the more elevated portion of the city. Vessels generally remained n port during the display of the signal.

March 19–22, 1873.—Though there was no gale in Baltimore, a fierce tornado is reported from off "York Spit" at midnight of March 20, which lasted fifteen minutes.

March 24–27, 1873.—Steamers due from Norfolk were delayed by the wind three hours.

March 29–30, 1873.—Considerable damage done by the storm. No lives lost or vessels wrecked.

BOSTON, MASSACHUSETTS.

[*Official Number*, 13.]

Latitude	42° 21′
Longitude	71° 04′
Elevation of barometer above sea-level	77.4 feet

No change has been made in the location of the office since the last annual report. It is in the heart of the city, and convenient to the different newspaper and telegraph offices, while the roof from which the cautionary signals are displayed affords a good view of the greater part of the harbor.

Reports from twenty-four other stations are received here, of which number four are received from the north and transferred to New York. These reports are bulletined regularly, and furnished to the press, and manifold maps of the morning reports are also printed.

During the year three thousand four hundred and forty-two maps and four thousand one hundred and ninety-three bulletins have been issued, and two thousand and fifteen reports furnished to the press. The Synopsis and Probabilities received through the agency of the Associated

Press are regularly published by the daily papers, which also print monthly abstracts and other data furnished by the observer. The is of post-office bulletins to four hundred and three offices was commen July 15, 1873, and been continued daily, with the exception of Sund since that date. These bulletins contain the midnight Synopsis a Probabilities issued from the central office, and two copies are mailed each post-office. The total number of copies issued to date amounts sixty-two thousand and sixty-two.

Previous to this issue, the observer wrote manifold copies of t Probabilities for display in connection with the regular bulletin. these, one thousand one hundred and eighty-eight copies were made a posted.

Sergt. H. E. Cole, who was in charge of station at the date of last report, was relieved April 12, 1873, on account of ill-health, a succeeded by Sergt. E. A. Lewis, who was succeeded September by Sergt. P. G. Dietz, who is now in charge. Private Dunne w ordered in for promotion July 1, and succeeded by Private E. D. H brook, the present assistant. When the issue of post-office bullet was commenced, two additional assistants were sent there to aid in g ting them out promptly. One of these men was relieved for misc duct September 23, and his place filled by a better man. Upon t recommendation of the inspecting officer, a fourth assistant was sent the station September 29, making four now on duty.

The station was inspected in January, and again in September of t year. At the first inspection, the instruments and records were fou in excellent condition, and the observer, Sergeant Cole, highly co mended for his zeal, intelligence, and excellent habits. His relief w a source of regret to the business men with whom he held official re tions.

The full report of the September inspection has not yet been receiv but the inspector reported by telegraph the unfitness of Sergeant Lew and recommended his immediate relief.

The meteorological committee at the station, of which Mr. Thom Gaffield is chairman, has been active in rendering such assistance was called for from time to time by this office, and also in extendi courtesies to the observer on duty.

During the year thirty-four cautionary signals have been display of which number twenty are reported by the observer as justified at t station.

The observer remarks in reference to these signals, as follows:

November 29–*December* 1, 1872.—Severe storm reported along the coast.

December 26–27, 1872.—Heavy storm along the coast, and shipping all remained in p

January 5–6, 1873.—Severe storm on the coast; all shipping remained in port.

January 23–25, 1873.—Shipping remained in port. The display of this signal co mended by the press.

January 27–28, 1873.—Shipping remained in harbor. Storm severe on the coast sou of this station.

February 7–8, 1873.—Storm along the coast reported severe. Vessels going to took warning and remained in port.

February 16–17, 1873.—Shipping remained in port. Severe storm along the coast.

February 21–22, 1873.—Very severe storm; shipping remained in port. The pr commended the display of the signal.

March 10, 1873.—Short, but severe storm.

March 11–12, 1873.—Shipping remained in port. Storm severe on the coast.

March 15–17, 1873.—Southeast snow-storm, followed by very high westerly win The shipping remained in port, with the exception of the steam-yacht Grace Irvi which put to sea, after being specially warned that a danger-signal was flying, a was lost, with all on board, four or five persons.

March 29–*April* 1, 1873.—The shipping would not sail at night, but waited for da light, while the signal was displayed.

April 12-15, 1873.—Shipping remained in port during display of signal; storm long d severe.

May 2-4, 1873.—Vessels remained in port; blowing hard outside.

August 13-15, 1873.—Storm very severe outside. Many vessels staid in port, and a small boats were washed from their moorings.

The following extract from a special report, made by Sergeant Cole, on the meteorological conditions attending the great fire of Novem- r 9 and 10, 1872, is believed to possess sufficient general interest to stify its insertion here:

During the progress of the fire, the wind varied from N. N. W. to N., with a locity from five to nine miles per hour, weather being clear and pleasant and the air y, the fire breaking out shortly after 7 p. m., November 9, 1872. Between 2 and 3 a. , November 10, standing at the intersection of School and Devonshire streets, on the rth or windward side of the fire, looking south toward and at a distance of about feet from it, the indraught of air along the ground through Devonshire street ward the burning buildings assumed the character of a brisk wind, probably sixteen eighteen miles an hour, while little or no wind could be felt on School street. At s time the heat over the fire, which covered an area of probably 800 or 900 feet uare, was so great as to cause fire, smoke, &c., to be carried in spirals to a very great ght.

At a point on South street, which is on the south or lee side of the fire, and about feet from it, the induced currents, at about 3.15 a. m., were very strong, rushing rough the street toward the fire, which then probably covered over 1,000 feet square, th a velocity of probably thirty or thirty-five miles an hour, carrying the fire bodily windward.

This state of affairs appears to be the reverse of the Chicago fire, where the force of the nd prevailing at the time was sufficient to overcome the induced currents, and the fire rned to leeward. In the present case, it appeared as if the light wind permitted the in- aughts to rise at a considerable angle after reaching the fire, leaving a large space of ghly rarified air in their front, inducing stronger currents to rush in, which, meeting the draught, gave the spiral or whirlwind form to the ascending currents; and this idea is rengthened by the fact that on the outskirts of the fire the flames, when breaking rough the windows of the buildings, always tended upward, joining with the whirling ass of flames and smoke which covered that portion of the city with a fiery dome, ile the flames from those buildings more in the center or vortex of the fire formed wnward a perfect cataract of flame, destroying even the granite blocks with which streets were paved. The surface-wind generally was accelerated on all streets ding to the fire, but more especially so on the south side of it.

During the night a flock of ducks passed at a great height over the fire, and the light lected from their plumage made them appear as fire-balls passing rapidly through air. Many who marked their flight called them meteors, and likened them to the -balls said to have been seen in the Northwest during the great fires in that region.

As an example of the great heat diffused, I would state that during the night I ex- sed a thermometer in the observatory to the full glare of the fire, when it rose nearly , although placed upward of two thousand feet from the burning buildings and dead windward of them.

No other meteoric phenomena were observed, the weather remaining unchanged.

BRECKENRIDGE, MINNESOTA.

[*Official Number*, 82.]

titude	46° 16′
ngitude	96° 38′
evation of barometer above sea-level	966 feet.

The location of the office remains unchanged since last report. It is e best that can be obtained in the place, and affords good exposure for e several instruments. The building occupied is a frame one, and not ell adapted for the comfort or convenience of the observer, and it is commended that suitable provision be made before another winter to otect the observer from the inclemency of the weather. As reports e not received here from other stations, bulletins are not issued.

Sergt. C. A. Shaw remains in charge, and has rendered all reports a satisfactory manner. He reports that much interest is manifested travelers in the working of the office and the different instruments. rangers in passing through the town seldom fail to call at the office.

BUFFALO, NEW YORK.

[*Official Number*, 33.]

Latitude	4
Longitude	7
Elevation of barometer above sea-level	662

No change has been made in the location of the office at this st during the year, nor is any considered necessary, as the present o in the business center of the city. Reports from fifty-five other sta are received here and published in the regular manner, in the fo maps, bulletins, and press reports. During the year five thousand hundred and one manifold maps, six thousand four hundred and sev two bulletins, and one thousand and sixty-two press reports have issued. In addition to this issue one thousand five hundred and f nine copies of the Synopsis and Probabilities were made on n fold forms and posted with the regular bulletins before July 2 which date the issue of post-office bulletins was commenced to hundred and fifty-three offices. Two copies are furnished each daily, and the total number issued to date is twenty-one thousand hundred and twenty. The leading newspapers publish the tabul reports and also the monthly abstracts, while all of them print the l Probabilities received.

The meteorological committee of the board of trade continue assist the office whenever practicable, and its members retain thei terest in the service. Sergt. William McElroy was relieved from ch of the station January 24, and reduced to the ranks for failin render his mail reports regularly. He was succeeded by Sergt. W Colesberry, who has given satisfaction by the promptness and reg ity with which all reports have been made. Privates T. A. Taylor D. O'Leary have been called in successively from this station du the year for promotion, and both passed the required examina Four assistants are now on duty, and are kept steadily employed in ting out the various publications of the office and attending to daily distribution. The station was inspected in March, and some sl irregularities discovered in the records, which were attributed t neglect of Sergeant McElroy.

The instrument-shelter was also found defective, and as soon as necessary arrangements could be made a new one was built on the of the office-building in accordance with the plan adopted by office. Twenty-seven cautionary signals have been displayed du the year, of which the observer reports thirteen fully, and s partly, justified at the station. The observer remarks as follows in erence to the result of these warnings:

October 15–16, 1872.—The cautionary caused considerable apprehension, as th rometers had fallen rapidly in the previous eight hours, and was therefore gene observed, no vessel leaving the harbor during its display.

October 30–31, 1872.—The signal caused much comment among "lake-men," qu number of vessels being ready to go out, but were detained on account of the s until the morning of the 31st.

November 7–8, 1872.—The storm very severe; all vessels remaining in port d the display. One barge, with all on board, was lost while trying to make the h in the morning.

November 13–15, 1872.—Generally observed by lake-men. Two vessels attempt leave the harbor but failed. The wind blew a gale on the lake, its velocity being third greater than that shown by the anemometer on shore.

November 27–28, 1872.—Gale very severe, but the wind being from southwes several days previous, and no vessels leaving port, only those bound in caught.

November 30–*December* 4, 1872.—These cautionaries were generally heeded. Owing
ice in the upper lake few vessels had left this port during the week. The captains
two vessels stated that they escaped danger by the display of the signal. Most
ssels are laid up for the winter.

May 7–9, 1873.—Signal heeded by mariners, no vessels leaving port during the dis-
y.

September 12–13, 1873.—No vessels left port on account of signal.

September 15–16, 1873.—Signal attracted much attention from every one. A fleet of
enty-three vessels remained in port on account of the signal, which caused much
citement and anxiety among mariners.

BURLINGTON, VERMONT.

[*Official Number*, 45.]

titude	44° 29′
ngitude	73° 15′
evation of barometer above sea-level	223 feet.

The location of this office has not been changed since last report.
o reports from other stations are received here, and, consequently, no
lletins are issued. The local observations and the monthly abstracts
e printed regularly by the several newspapers published at the station.

The Synopsis and Probabilities are received irregularly and copied by
e observer on the proper manifold form and posted with his local
ports.

The station was inspected in December, 1872, and numerous irregu-
rities found. As these appeared to have been caused by the youth
d inexperience of the observer, Sergt. George H. Ellery, he was re-
ined on duty upon the recommendation of the inspecting officer, and
nce that date his reports have been regularly and properly rendered.

The members of the meteorological committee express themselves as
sirous of doing anything in their power to promote the interests of
e service.

The records of the office have been twice used during the year as evi-
nce in legal cases.

There is no assistant on duty at this station, and as the observer's
alth had become impaired by his close attention to duty, Sergeant
ee was sent to relieve him for one month from July 1, and he was per-
itted to rest for that period.

CAIRO, ILLINOIS.

[*Official Number*, 53.]

titude	37° 00′
ngitude	89° 10′
levation of barometer above sea-level	352 .2 feet.

No change has been made in the location of the office since last re-
ort. Reports from fifteen river-stations are received and bulletined
ch afternoon when the telegraphic communication is perfect, but none
e received in the morning or at midnight.

Three hundred and ninety-eight reports of local observations have
een furnished the local press, and one thousand nine hundred and two
lletins of river reports posted in appropriate places. The river ob-
rvations have been continued daily during the year, the top of the
vee being used as the bench-mark, and the zero of gauge fixed at the
oint reached by the extreme low water of December, 1871. The range

between this point and high water of 1867, which reached the to the levee, is fifty-three feet.

The station has not been inspected since the date of last report.

Sergt. Thomas L. Watson was relieved February 18, 1873, for ne of duty, and was succeeded by Sergt. D. W. Harnett, who left the tion without authority, and was reduced to the ranks while absent. was subsequently apprehended, tried, and found guilty of deser and is now serving out his sentence for that crime. Sergt. E. Gar was ordered to succeed him, and is now at the station. His report not promptly rendered, and it is intended to relieve him unless a ch for the better is made.

Private James M. Watson was ordered in for promotion April 1, after going through the regular course at Fort Whipple passed a s factory examination, and was succeeded by Private E. F. Brady, still remains and has given satisfaction.

CAPE MAY, NEW JERSEY.

[*Official Number*, 54.]

Latitude	38
Longitude	74
Elevation of barometer above sea-level	14.2

The location of the office at this station remains unchanged. No ports are received here from other stations, the station being use during the last year, for observation and report and the display of tionary signals only. Owing to the present defective telegraphi rangements much delay has been experienced in the transmissi the regular reports, the midnight ones, with few exceptions, being layed until the following morning. The papers published at this sta are furnished with the local observations daily during July and Au and weekly during the rest of the year.

Sergt. T. F. Townsend remains in charge of the station, and rendered all his mail reports promptly and in good shape. The sta was inspected in January of the present year, and instruments an cords reported by the inspector in good condition.

Thirty-six cautionary signals have been displayed during the year, and of this number twenty-one are reported as justified at the tion. In reference to these signals the observer remarks as follow

> *October* 24–26, 1872.—Wind blew in heavy squalls during the afternoon and eve of the 25th.
>
> *January* 5–6, 1873.—Tornado twenty miles up the coast at 3 p. m. of the 5th.
>
> *January* 16–17, 1873.—Heavy squalls, with rain.
>
> *January* 23–25, 1873.—Wind in heavy squalls.

No signal orders can be sent to this station after 7 p. m., as the graph-office closes at that hour.

There is a great demand for the Probabilities among the guest the several hotels during the watering season, but the local papers unable to obtain them on account of the early closing of the telegr office.

The following is an extract from the semi-annual report of the server for the six months ending July 1, 1873, in reference to the i est manifested in the service at this place:

> Owing to the uniform correctness of the prognostications, public interest is la on the increase and corresponding benefits derived. The buildings in this lo

ing entirely of wood, a large amount of labor and material, particularly in paint, annually saved by the forecasts and signals.

I find also a growing confidence in the cautionary signals among sea-faring men, d a more thorough knowledge in the use of their meteorological instruments than s heretofore existed.

CHARLESTON, SOUTH CAROLINA.

[*Official Number*, 21.]

titude	32° 45′
ongitude	79° 55′
evation of barometer above sea-level	61.4 feet.

The office remains unchanged since last report. Owing to the want f proper telegraphic facilities no reports from other points are received ere at present. The monthly summaries and the local observations are gularly furnished to, and published by, the daily papers. Twelve utionary signals have been displayed at this point, six of which are ported as fully justified at the station.

The observer remarks as follows upon some of these signals:

October 23–24, 1872.—Several vessels remained in harbor on account of the signal.
March 19–20, 1873.—No vessels left port during the display.
April 1–2, 1873.—A fishing-boat upset in Ashley River, and one man drowned.

Sergt. J. E. Evans, who was in charge at the date of last report, as relieved in October, for the benefit of his health, which had become npaired by close attention to duty. He was succeeded by Sergt. M. . Hearne, who still remains, and has given satisfaction.

Privates Sidney Powell and Thomas Cleary have been called in suc- essively for promotion, and passed the required examination satisfac- orily. Private J. J. Nanry is the present assistant, and is commended y the observer for his good conduct. A lively interest in the service manifested by the merchants and other business men at this station, nd regret is expressed at the non-receipt of full reports from other oast-stations and those in the interior of the Southern States. The legraphic service, so far as the transmission of the local reports are oncerned, has been performed satisfactorily.

CHEYENNE, WYOMING TERRITORY.

[*Official Number*, 68.]

titude	41° 12′
ongitude	104° 42′
evation of barometer above sea-level	6,058 feet.

No change has been made in the location of this office since last re- ort, the present location being a very desirable one.

The reports from Santa Fé and Denver are transferred here east and est. Seven hundred and fifty-two bulletins have been issued during e year and two hundred and eight reports, together with the local ob- rvations furnished the press.

Sergt. A. C. Dobbins remains in charge, and has given general tisfaction by the promptness and regularity with which reports have een rendered. He was unable to take observations on the 7th, 8th, d 9th of May on account of sickness, and as the instructed civilian sistant had left the station, the record would have been interrupted t for the courtesy of the post surgeon at Fort D. A. Russell, who made observations at that post and furnished copies of the same to observer, thus enabling him to complete his record.

To guard against the recurrence of such accidents, Private M. Perry was ordered to the station as an assistant, May 8, 1873, and s remains. His conduct is commended by the observer.

CHICAGO, ILLINOIS.

[*Official Number*, 37.]

Latitude	41°
Longitude	87°
Elevation of barometer above sea-level	657

The office was moved June 19, 1873, to a building on the corne Madison and La Salle streets, in order to get it nearer the several t graph offices. Two rooms are occupied, giving fine facilities for work of this station, which has largely increased during the year, is still performed under some of the disadvantages resulting from disastrous fire of 1871. Full reports from seventy-five regular stati are received here, besides the special reports from the river-stati when they are made. These reports are published in the regular m ner, and during the year thirteen thousand six hundred and ninety- maps have been printed and distributed, two thousand two hund and forty bulletins issued and posted, and two hundred reports furnis to the press. The issue of post-office bulletins to seven hundred ninety-eight offices began June 17, and since that date one hundred sixty-eight thousand seven hundred and thirty-two copies have b sent out. As the matter for these bulletins is seldom received befo o'clock a. m., and the copies ready for mail must be in the post-office 5 a. m., the work is necessarily done with great rapidity, and in view these facts the accuracy and regularity with which the issue is m deserves commendation. Considerable difficulty has been experien in the receipt and transfer of reports, owing to the frequent inter tion of one or more of the telegraph lines over which they should received, and the consequent necessity of transferring them to s other office with as little loss of time as practicable, especially at n night, when every minute is of importance. The different telegra offices have to be visited regularly at report hours, and their condit ascertained, and the action of the observer governed by the informat thus received. His instructions on this subject are as follows:

When the regular Atlantic and Pacific circuit to New York is in rupted, all reports received will be sent by Pacific and Atlantic cir to Cincinnati, and the observer at that point notified that commun tion cannot be had with New York: If this latter circuit is also do the reports will be sent by the Western Union to the observer in N York, if that route is open, and when it is not, will be filed in the W ern Union Office, addressed to the Chief Signal-Officer at Washingt to be sent by any available route at the disposal of the company.

Reports for Saint Louis and Cincinnati will be sent to those poi by the Western Union whenever the regular Pacific and Atlantic cuits are broken. Reports for Milwaukee will be sent by the West Union whenever the Great Western lines to that point are down.

Some few delays have occurred from a natural reluctance on the p of operators to admit that their wires were down, and some from ot causes; but, as a whole, this part of the work has been well perforn by all parties.

The station was inspected in April of this year, and such irregul ies as were found to exist pointed out and corrected. Several changes have been made during the year in the management of the station, Sergt. Theodore Mosher being transferred to the central office January 2, 1873, and Sergt. A. C. Ford, his successor, to Nashville, Tenn., May 1, 1873.

Sergt. W. S. Kauffman has been in charge since the last-named date, and has given satisfaction by the prompt and accurate manner in which his various duties have been performed, under circumstances of unusual lifficulty.

Of the assistants who have been on duty here during the year, one, Private J. D. M. Fee) was called in for promotion, and after going hrough the usual course of instruction at Fort Whipple passed a satsfactory examination; one was called in for misconduct; one (Private H. R. Pullan) deserted; one was discharged; one transferred to another station, and one to the central office. Six regular assistants are now on duty, and kept busily employed in getting out and distributing the arge daily issue of maps and bulletins.

A lively interest is manifested in the service among all classes of citzens, and the labors of the office are properly appreciated.

Thirty-eight cautionary signals have been displayed during the year, of which twenty are reported fully justified, and two partly justified, at the station. In this connection the observer remarks as follows:

October 15–16, 1872.—Gale much more severe on the lake than at the port. Many essels remained in harbor on account of the warning; but six or seven which went out while the signal was flying were compelled to return during the night.

October 28–31, 1872.—The office was visited by twenty-eight captains of vessels and owners during the display of the signal, more than half of whom stated that they emained in port on account of the warning given.

November 4–6, 1872.—The wind blew in heavy gusts, and was more severe out on he lake. The office was visited by many captains of vessels and others interested, and many vessels remained in port on account of the warning.

November 6–8, 1872.—The wind blew in gusts and was severe on the lake. The office was visited by a number of captains, and many staid in port on account of the warnng given.

November 13–14, 1872.—Numbers of vessel-men called at the office, many of whom tated that they delayed their departure on account of the signal.

November 26–28, 1872.—This gale is represented to have been one of the most severe ver experienced on the lake. One schooner known to have delayed her departure on ccount of the warning. The office as usual was visited by numbers of seamen.

December 7–10, 1872.—But few vessels leaving port now. One schooner reported to have remained in port on account of warning.

April 3–7, 1873.—Storm of wind, snow, and rain.

April 21–23, 1873.—Propeller detained in harbor by the signal, which was justified.

September 17–18, 1873.—The wind was much heavier on the lake than at the port. Many vessels remained in, and those which attempted to go to sea were compelled to eturn. The papers make mention of numerous vessels damaged by the storm.

September 24–25, 1873.—The weather was bad, and several captains of vessels called at the office, who were detained by the signal, and with good effect, as news has been eceived of the loss of at least one vessel on the lower part of the lake.

September 26–27, 1873.—For a southwest gale and the season of the year, it is said to be unusually severe. The papers contain accounts of numerous injuries to vessels that were caught in the blow, several of which were wrecked on the east shore. A number of vessels remained in port, and probably escaped damage.

The leading newspapers publish reports regularly, and since the issue of post-office bulletins commenced have received, through the energy of he observer, the latest one sent to him from the central office in Washington.

CINCINNATI, OHIO.

[*Official Number*, 65.]

Latitude .... 39°
Longitude .... 84°
Elevation of barometer above sea-level .... 614 f

The location of the office of this station has not been changed si last report, but through the liberality of the members of the cham of commerce a second room, rendered necessary by the increas amount of work thrown upon the station, has been added and furnish at a mere nominal expense to the Government.

Reports from thirty-one other stations are received here in the mo ing, and the same number in the afternoon, with the addition of tho from the special river-stations during the spring and fall months. midnight seventy reports are received for the map, which is printed a distributed each morning by 7 o'clock a. m. Most of these reports transferred to Washington as received, which materially increases t work of the observer, who is obliged to keep himself constantly inform of the condition of the telegraph-lines in order that he may not lose va able time at the moment for action. When the regular circuits are working from any cause, the observer is instructed to transfer all ports promptly to any available line that will transmit them promp to their destination.

During the year, eighteen thousand three hundred and one maps, a seven thousand six hundred and sixty-one bulletins have been issu and two thousand three hundred and thirty-seven reports furnished the press. The issue of post-office bulletins to seven hundred a fifty-three offices was commenced April 7, 1873, and up to date two h dred and sixty-four thousand five hundred and two copies have be printed and mailed, two copies being sent to each office. As the m closes at 5 o'clock a. m., this part of the work requires to be done promp and with system. No instance has been reported where these bullet were printed too late for the mail, which speaks well for the conduct the men charged with the duty.

River observations are made regularly, and during the year one th sand eight hundred and eighty-three river-bulletins have been post on the appropriate form.

The bench-mark, from which measurements are made, is the extre low-water mark of September 15, 1858, which was twenty inches abo the bed of the river. The leading newspapers publish full tabulat reports daily in excellent form, and also the latest Probabilities receiv together with the monthly abstracts and the Weekly Weather Chronic At no other station has the press taken a livelier interest in the servi or done more to promote its usefulness.

The monthly abstracts of the weather prepared by the observer models of meteorological forms, both in appearance and contents, and is hoped they will be followed at all stations where the press is willing publish them.

Sergt. E. F. Maynard was in charge until May 16, 1873, when deserted, while under the influence of liquor, and was succeeded Sergt. Theodore Mosher, who is still in charge and has performed various duties in an unusually able and intelligent manner. He is high spoken of by the meteorological committee of the chamber of commer by the members of the press and the general business men with wh he is daily thrown in contact. Twice during the year Sergt. N. Gor

as in temporary charge on occasions when Sergeant Maynard was
nable from sickness to perform his duties. Of the assistants on duty
uring the year, one was called in for misconduct, one transferred to
ort Whipple as orderly sergeant, one, Private Edwin Booth, ordered in
r promotion, and one, Private Martin Evans, committed suicide while
mporarily absent from station on leave. At present there are six as-
stants on duty, one of whom is a sergeant, sent to relieve the observer
a portion of his responsibility. During the industrial exposition held
Cincinnati through the month of September, the morning Probabili-
es were sent from the central office to Sergeant Mosher and printed
y him daily in the exposition building, on a press kindly furnished for
e purpose by the executive committee.

A full set of standard station-instruments was also sent him for ex-
bition and excited favorable comment from the visitors and the press.

These instruments were sent to Chicago at the close of the exposition
r display there. Two extra assistants were furnished the station dur-
g the exposition, and were ordered to other points at its close.

The members of the meteorological committee of the chamber of
ommerce are entitled to the thanks of the Chief Signal-Officer for
eir uniform kindness to the observers individually, and for the public-
irited interest they have constantly manifested in the service.

The station has been twice inspected during the year, once in Novem-
er, 1872, and again in April, 1873. On both occasions it was found in
ood condition, with records neatly kept and up to date.

CLEVELAND, OHIO.

[*Official Number*, 34.]

atitude	41° 30′
ongitude	81° 47′
levation of barometer above sea-level	682.7 feet.

The office was moved April 30, 1873, upon the recommendation of the
nspecting officer, to the third story of the National Bank building, on
e corner of Water and Superior streets, where two rooms are occu-
ied, affording ample space for the station work.

The roof exposure for instruments and the display of cautionary sig-
als is an excellent one.

Reports from fifty-five other stations are received here and published
the regular manner, manifold maps being issued daily.

During the year two thousand one hundred and thirty-seven maps
nd three thousand three hundred and ninety bulletins have been issued,
nd seven hundred and two tabulated reports furnished to the press, in
ddition to a daily abstract of the local observations.

The greater part of this work was done after the relief of Sergt. J.
. Martin, March 18, 1873, as under his charge the station fell into gen-
ral disrepute and the work was grossly neglected. He was relieved
pon the recommendation of the inspecting officer and ordered to Fort
Vhipple, where, after reduction to the ranks, he was discharged the serv-
e. Sergt. L. M. Crist was transferred to the station from Roches-
er, where he had been serving creditably as an assistant, and by his
nergy and tact soon inspired new interest in the service, and by his
romptness in furnishing reports to the press secured their regular pub-
cation in tabulated form.

Becoming insubordinate he was ordered to Fort Whipple, but desert-
d before reaching that post. He was succeeded May 1 by Sergt.

Will Stromberger, who still remains in charge and has given satisf tion both to the central office and to the citizens. One assistant been transferred to the central office and one ordered in for promoti but has not yet completed the regular course of instruction at F Whipple. Private M. L. Landers, the present assistant, is commen by the observer for his good conduct.

The station has been twice inspected since the last report, once October, 1872, and again in March, 1873. At the last inspection merous grave irregularities were discovered, which led to the relief the observer as before stated.

Instruments and records are now reported to be in good condition

Twenty-five cautionary signals have been displayed during the ye of which number fourteen are reported as justified at the station.

In reference to these displays the observer remarks as follows:

October 15-16, 1872.—Several vessels left the harbor about 11 p. m. of the 15th, about 2 a. m. of the 16th encountered a severe wind and were compelled to return port to escape accident.

November 7-8, 1872.—Reports from the lake state the wind was very severe several vessels received more or less injury before they were able to reach har The display of the signal was the means of keeping many vessels in port that wo otherwise have left in the afternoon and thereby been exposed to imminent danger

November 13-14, 1872.—A heavy wind commenced about 1 a. m. of the 14th, wh from the statements of captains of vessels must have been much greater than th miles per hour. Several vessels that left the harbor contrary to the warning were c pelled to return to the harbor, where they arrived with much difficulty and narro escaped serious injury.

November 24-25, 1872.—Signal justified. No vessels are now leaving port, nav tion being about to close, and none will again leave until the opening of navigatio the spring.

November 28–*December* 1, 1872.—The wind was very severe on Lake Erie. One sel near the port is supposed to have been lost. All the vessels in the harbor are up for the winter.

April 15-18, 1873.—No damage reported. It is stated that the lake was made rough by "cat squalls." Navigation not yet opened.

September 15-16, 1873.—Several schooners remained in port because of the warn the captains of which stated that they always worked by the signal. Four schoo went out but had to put back, reaching port about midnight, the captains of wh immediately came to the office to learn the prospects.

September 17-18, 1873.—One steamer and several schooners remained in port on count of the warning.

A gratifying amount of interest is at present manifested in the vice by the members of the meteorological committee, by the press, by the citizens generally.

The editors of the several morning papers have recently effected arrangement with the Atlantic and Pacific Telegraph Company, by wh they receive regularly, in time for publication, the midnight Synop and Probabilities issued from the central office.

CORINNE, UTAH.

[*Official Number*, 70.]

Latitude	41°
Longitude	112°
Elevation of barometer above sea-level	4,249 f

The office was moved temporarily on November 2, 1872, to a sm house in the upper part of the city, and on December 3, 1872, to present location on Montana street, between Sixth and Seventh stre

Sergt. S. W. Beall remains on duty and manages the station alo He has rendered all reports regularly and promptly, and in a satisf ory manner. Reports from nine other stations are received here irreg-ılarly, of which two are transferred to the Chicago circuit.

During the year three hundred and four bulletins have been issued, ınd two hundred and thirty-three reports of local observations furnished he press.

The station has not been inspected since the date of the last report, ınd the present condition of the office is therefore unknown.

DAVENPORT, IOWA.

[*Official Number*, 51.]

atitude	41° 30′
ongitude	90° 38′
levation of barometer above sea-level	603.3 feet.

No change has been made in the location of the office during the year, ıor is any considered necessary at present, as it would be difficult to find ınother possessing the same advantages.

Reports from twenty-nine regular stations are received here, and luring the spring and fall from all the special river-stations.

Three thousand four hundred and thirty-five bulletins have been ssued and ninety-three reports furnished the press. In addition to this ıumber one thousand two hundred and three river-bulletins have been ssued and furnished the press.

The gauge used for the river observations was constructed by Colonel Iacomb, United States Engineers, on the pivot on draw-bridge pier of he Government bridge, between Davenport and Rock Island. It is in he Davenport channel, and is cut in the stone-work and painted in lack and graduated into feet and tenths. Its zero-point is the low water f 1863, the lowest water known.

The station was inspected in June of this year, and the instruments nd records found in such bad condition that the observer in charge, ergt. Max Marix, was at once relieved from duty and discharged the ervice. He was succeeded by Sergt. S. P. Ruthven, June 19, since vhich date a marked improvement has been observed both in the form nd promptness with which reports are transmitted. One assistant has een transferred during the year to the central office, and one, Private . S. Collins, called in for promotion and passed the required exami-ation satisfactorily. Private B. E. Light is the present assistant, and s favorably mentioned by the observer.

The local observations, river-reports, and monthly abstracts are urnished regularly to the press and usually published.

Mr. Dalzell, the chairman of the meteorological committee, has dis-layed a marked interest in the welfare of the service, and done all that aid in his power to promote its usefulness.

The telegraphic service from this station has been of the most unsatis-actory nature, and it is to be hoped that an improvement will be made n this respect at an early date.

DENVER, COLORADO.

[*Official Number*, 76.]

atitude	39° 44′
ongitude	104° 58′
levation of barometer above sea-level	5,135 feet.

The office was removed March 15, 1873, to the Woodward building, on Iolliday street, between Fifteenth and Sixteenth streets, to get a better exposure for the instruments than could be obtained at the forn location, and to get it nearer the telegraph-office, which is located in t same building. The present office is on the third floor of the buildi is 14 by 20 in size, and has two windows facing the northwest, from o of which the instrument-shelter projects. The shelter was removed fr the old office, and put up again without injury or expense to the G ernment.

The station was inspected in November, 1872, and all instruments a records found in good condition.

Sergt. Henry Fenton still remains in charge, and has forwarded mail reports with commendable promptness and in a creditable sha The morning and midnight telegraphic reports have most of the ti failed to reach the central office on time, owing to the present unsa factory telegraphic facilities. No reports are received here from ot stations, and therefore no maps or bulletins are issued.

During the year, seven hundred and eight reports of local obser tions have been furnished the press. There is no assistant at this s tion. Sergeant Fenton's experience and knowledge of the country ha been of service to the central office in the work of establishing the s tion upon Pike's Peak.

DETROIT, MICHIGAN.

[*Official Number*, 36.]

Latitude	42°
Longitude	83°
Elevation of barometer above sea-level	656.3 f

No change has been made in the location of the office since the d of last report. Reports from fifty-five other stations are received h and published in the usual manner on manifold maps and bulletins a in press reports.

During the year three thousand five hundred and nineteen maps, thousand seven hundred and fifty-eight bulletins have been issued, a seven hundred and four press reports furnished for publication. T regular issue of post-office bulletins to three hundred and thirty-sev offices was commenced July 21, since which date forty-seven thous eight hundred and fifty-four copies have been sent out.

Before the work of printing the Synopsis and Probabilities was co menced two thousand and fifty-two copies of them were manifolded a posted with the regular bulletins.

Reports from two other stations are received here for transfer to New York circuit.

The station was inspected in April, 1873, and the records and inst ments found in good condition, although the conduct of Sergt. Mann, the observer, was such that his relief was recommended by inspector and immediately ordered. Sergt. William Finn took cha of the station April 5 and still remains, having given satisfaction the manner in which his duties have been performed.

Two assistants have been relieved during the year for miscondu and one, Private Will Stromberger, called in for promotion, and pas the required examination.

Four assistants are now on duty and are all kept busy in getting the various publications of the office.

Twenty-nine cautionary signals have been displayed during the ye of which six are reported as justified at the station.

The observer remarks, in reference to these displays, as follows:

November 27–28, 1872.—The wind was gusty and boisterous, making a rough river.
November 28–30, 1872.—The wind gusty and boisterous, making a rough river.
April 30–*May* 3, 1873.—According to dispatches received from points on Lake Huron, e wind is reported to have been blowing a gale there.
May 6–9, 1873.—Newspaper reports state that there was very heavy weather, with iolent southwest wind outside of this on Lake Huron on the 7th.

The leading newspapers publish the tabulated reports more or less ally, the monthly abstracts, and the latest Probabilities received at the tation.

The interest in the service has been largely increased since the issue f the post-office bulletins brought the work of the office more directly efore the people of the State.

DUBUQUE, IOWA.

[*Official Number*, 98.]

atitude	42° 30′
ongitude	90° 45′
levation of barometer above sea-level	665 feet.

The office is located in Sullivan's block, in the business center of the ity, corner of Maine and Sixth streets. The building being higher han any of the surrounding ones, its roof affords a very good exposure or the several instruments. The instrument-shelter is of the authorized orm, facing north. The station is supplied with two full sets of the tandard instruments, all of which are reported in good condition. The tation was established by Sergt. Robert J. Bell, who began taking reglar observations on July 10, 1873.

This station is one of observation only, and no reports are forwarded o this office by telegraph, except occasional mid-day observations, in ccordance with instructions on this subject.

No reports are received here from other stations, and therefore no aps or bulletins are issued. The local observations are furnished reglarly to the press.

A river-gauge has been constructed by the observer, who is instructed o make regular daily observations, and report them by telegraph to aint Louis over the regular circuits. The gauge is located at the foot f Seventh street, and its zero point is low-water mark of October, 1864, nd is 21 feet 10 inches below the high-water mark of April 22, 1870. he average depth of water in the channel is 18 feet below low-water ark of 1864.

The station was inspected in August of the present year, and the intruments and records found in the "best possible condition."

Much interest is manifested in the service by all classes of citizens at his place, and an earnest desire is expressed for the receipt of reorts from other stations.

DU LUTH, MINNESOTA.

[*Official Number*, 40.]

atitude	46° 48′
ongitude	92° 06′
levation of barometer above sea-level	642.7 feet.

No change has been made in the location of this office during the ast year. Sergt. John Dascomb, who was in charge at the date of the last report, was transferred, on his own request, to Vicksbu Miss., October 4, 1872, and was succeeded by Sergt. R. R. Ma who still remains in charge.

The station was inspected in May of the present year, and foun a creditable condition.

Upon the interest in the service manifested by the observer, th spector remarks: "The observer's journal shows that during notable storms extra observations have been made by him, and in case hourly observations for a period of fifteen hours."

Upon the recommendation of the inspector, Private Addison Slamm sent to the station as assistant May 2, 1873, and is favorably mentio by the observer for his attention to duty.

No reports are received here, and therefore no maps or bulletins issued. The press is furnished with the monthly summaries and local observations, but the former only are published at present.

During the past year twenty five cautionary signals were displa and of this number fourteen are reported as justified at the station. following remarks are made by the observer upon incidents conne with these signals:

November 9–12, 1872.—The schooner Monitor was ready to sail, but remained twenty-four hours on account of storm-signal flying.

November 13–14, 1872.—This has been the severest storm felt here in a long Three schooners and one steamer were driven ashore, and two of the schooners wre The breakwater and the freight warehouses, docks, &c., of the Northern Pacific road Company and elevator damaged

December 12–15, 1872.—Signal justified—wind, accompanied by snow.

Considerable interest is manifested in the service by the busi community of this place, as the following extract from the obser semi-annual report for the six months ending July 1, 1873, will sho

> Judging from the increased interest manifested, the service appears to have ma rapid stride in the public favor. Very few captains of vessels leave this port wit first coming or sending to this office for information concerning the probable chara of the weather.
>
> Early in January last I was called on by the resident engineer of the Nort Pacific Railroad Company, who informed me that a regular series of meteorolo observations was about to be commenced under the auspices of that company at ous stations along the line of their road, these observations to be alike in all res with those of our service. I gave all the information and instructions necessar the work, and urged the importance of having them taken synchronously with t of the signal-service. According to this arrangement, stations were establish Brainard, Minn., and Fargo, Dak., and copies of the report furnished to the ce office.

The weekly reports from the stations referred to above have b regularly received at the central office, and form a valuable additio its records.

EASTPORT, MAINE.

[*Official Number*, 94.]

Latitude	44
Longitude	66
Elevation of barometer above sea-level	61.25

The office is located in the custom-house, in the business center of town. The bay is one square directly east of the building. The posure for roof-instruments and thermometers is as good as can be tained. The instrument-shelter projects from a window facing nort

The station was opened April 1, 1873, by Sergt. W. C. W. Shr who still remains in charge.

Private Daniel C. Murphy was ordered to this station as assistant July 22, 1873.

All reports have been forwarded promptly by mail, and the general nanagement of the station has been satisfactory.

No reports are received here, and therefore no maps or bulletins are ssued.

Ten cautionary signals have been displayed since the station was esablished, of which five are reported as justified at the station.

Much interest is taken in the service by mariners, and the observer eports two cases where captains put in from sea in passing by Eastort to ascertain whether the cautionary signal was flying or not.

The station was inspected in September, 1873, and is reported in good ondition.

ERIE, PENNSYLVANIA.

[*Official Number*, 97.]

atitude	42° 07′
ongitude	80° 03′
levation of barometer above sea-level	671.5 feet.

The office is located in a three-story brick building on the corner of tate, the principal business street of the city, and the instruments have s fair an exposure as can be obtained. The instrument-shelter is of he authorized pattern, and projects from a window of the office-room acing north. Sergt. E. F. McComas opened the station on May 25, 873, and remains in charge. Previous to August 4, 1873, no reports vere sent by telegraph to the central office, and none were received from ther stations, and therefore no maps or bulletins were issued.

Since the above-mentioned date, however, reports are received from fty-five stations, and three hundred and fifty maps and eight hundred nd five bulletins have been issued, and the local observations, together vith the bulletins, furnished the press and published regularly. On ccount of the increased work, an assistant, Private H. L. L'Eesterre, vas ordered to this station August 2, 1873. The station was inspected n August, 1873, and everything found in creditable shape. Three autionary signals have been displayed here, one of which is reported ustified at the station.

Much interest is manifested in the service at this station by members f the press and the business community.

ESCANABA, MICHIGAN.

[*Official Number*, 49.]

atitude	46° 44′
ongitude	87° 16′
levation of barometer above sea-level	601.6 feet.

The location of the office remains unchanged since last report, but the nstrument-shelter has been remodeled and built with double walls of attice-work, to guard against the effect of radiation from adjoining valls. No reports are received here from other stations, and conseuently no maps or bulletins issued, but the local observations are furnshed to the Weekly Tribune, in tabulated form, and regularly published. he station has been inspected twice since last report—once in October, 872, and again in April, 1873. At the last inspection the records and nstruments were found in excellent condition. Sergt. R. J. Bell was relieved from charge of the station on account of ill-health March 1873, and was succeeded by Sergt. J. H. Garrard, who remained u ordered in and reduced to the ranks, for neglect of duty in fail to forward his mail reports promptly. Sergt. Edward Lloyd is in charge, and has given satisfaction.

Private A. J. Berry was ordered to the station as an assistant vember 18, 1872, and still remains, having performed his duties i commendable manner. In compliance with urgent requests from citizens of the station and of ship-owners at other points on the lal it was fitted up for the display of cautionary signals soon after the inspection.

The first signal was ordered up May 18, but owing to some difficu in the telegraph line was not received at the station. Since that d three others have been ordered, one of which was reported as not ju fied at the station.

There is no meteorological committee at this station; but one of citizens, Mr. S. C. Baldwin, connected with the Chicago and Northw Railroad, has shown a marked interest in the service, and done al his power to assist the observer in making it useful.

FORT BENTON, MONTANA.

[*Official Number*, 71.]

Latitude	47°
Longitude	110°
Elevation of barometer above sea-level	2,674

No change has been made in the location of the office. As during previous year, much irregularity has again been experienced in transmission of the telegraphic reports, chiefly owing to the uncertai of telegraphic communication in so unsettled and wild a part of country. Sergt. W. F. Slater remained in charge of this station u September 15, 1873, when he was relieved by Sergt. William Mc livray. Sergeant Slater has given entire satisfaction while in cha of this station, and has rendered all mail reports with the utmost prom ness and as regularly as mail facilities would admit. A plain river ga has been constructed during the year, and the stage of the river repor in the regular afternoon telegrams.

No reports are received here, and therefore no bulletins are issued

The thanks of the office are due to the commanding officer an Captain Kirtland, Seventh United States Infantry, for assistance dered the observer.

FORT GIBSON, CHEROKEE NATION.

[*Official Number*, 93.]

Latitude	35°
Longitude	95°
Elevation of barometer above sea-level	511

The office is located in the second story of a building at the corne two streets running north and west, respectively, in the village of F Gibson. The location is the best that could be obtained, and the struments are well exposed.

The instrument-shelter projects from a window in the office, and i the authorized form.

The station was opened on the morning of April 1, 1873, by Se homas A. Taylor, and reports have been received since then with as uch regularity as the limited telegraphic facilities would admit. ome delay has been experienced in getting the mail reports from this ation, and the observer has been repeatedly reprimanded for his shortomings in this respect.

No reports are received here, and consequently no bulletins are issued. he local observations are furnished to and published by a weekly aper printed in the English and Cherokee languages.

FORT SULLY, DAKOTA.

[*Official Number*, 83.]

titude	44° 39′
ngitude	100° 40′
evation of barometer above sea-level	1687.8 feet.

The office at this station remains unchanged. Telegraphic communiation has been frequently interrupted during the year, in one instance r nearly a month, owing to the unprotected and poor condition of the ne. The telegraph-office was finally abandoned by the Northwestern elegraph Company, whose property it is, on September 5, 1873, and as not since been re-occupied. Sergt. George Prendor remained in harge until September 29, 1873, when he was relieved by Sergt. Willm Ramsay, with a view to transfer to a more important station. The ation was inspected in July of the present year and found in propet ondition. The inspector remarks in his reports: "The books and apers were found in a condition unsurpassed by no other station in eatness and accuracy, and have been so kept under exceedingly diffilt circumstances."

A river-gauge has been constructed during the year, and the stage of e water reported in the regular afternoon telegrams. The distance the river from the fort is nearly a mile and a half, and the observer marks in his semi-annual report: "The performance of this duty aking river observations) exposes the observer to a twofold danger—e rifle and arrow of the Indian, or drowning. Examples are too nuerous of the grave risks that attend a defenseless white in the thick ndergrowth on the confines of the river, and I am the only person who entures there unarmed." No reports are received here and consequently bulletins are issued.

The office is indebted to Gen. D. S. Stanley, colonel Twenty-second fantry, for continued interest and a constant effort to afford all posble facilities to the observer.

The present observer has a sufficient practical knowledge of telegphy to act as operator in addition to his other duties, and it is exected that the transmission of reports will be resumed at an early te.

GALVESTON, TEXAS.

[*Official Number*, 55.]

titude	29° 18′
ngitude	94° 33′
evation of barometer above sea-level	40.2 feet.

The location of the office remains unchanged since the date of last port. No reports are received here from other stations, and no maps bulletins issued. The local observations are furnished the newspapers, and published by them during the summer season, and the amo of rain-fall and a monthly abstract of the climatology of the stat regularly.

Sergt. E. O. C. McInerney remains in charge of the station, and performed his duties satisfactorily, and rendered all reports promp and regularly. A series of interesting experiments made by him, reference to rain-fall at different elevations, has produced unexpec results, as each weekly report has shown a greater amount of rain lected at fifty feet above the ground than at the surface, the gau used being duplicates of the standard signal-service pattern. Priva J. E. Cook and B. C. Anderson have been called in, successively, promotion, and passed the required examination. Private William Belt was transferred to the station as an assistant April 10, 1873, a died of yellow fever September 18, after a brief illness. He was a you man of excellent character and habits, and had discharged his duties a conscientious and praiseworthy manner.

In consequence of the danger to which an assistant not acclimat would be exposed at this season of the year, none will be sent to place Private Belt until later in the season, as the observer is conside fully competent to manage the station alone for a few weeks.

The chairman of the meteorological committee, and the citizens g erally, have repeatedly urged the importance to their city of havi more reports furnished them from stations to the west and north in interior of the State. They also desire to receive reports from the G stations to the eastward.

The station was inspected in March of the present year, and found good condition.

GRAND HAVEN, MICHIGAN.

[*Official Number*, 48.]

Latitude	43°
Longitude	86°
Elevation of barometer above sea-level	616.3 f

No change has been made in the location of the office during the ye No reports are received here from other stations. The local obser tions and monthly abstracts of the local weather are occasionally pu lished by the newspapers, but not with sufficient regularity to ma them of much service to the public.

The station was inspected in April of the present year and found fair condition. Several irregularities were discovered and corrected fore the inspector left.

Sergt. F. F. Wood remains in charge and is favorably mentioned the inspector in his report for his sobriety, courtesy, and general havior.

Sergt. J. H. Garrard was on duty at the station from January to March 11, 1873, during the illness of Sergeant Wood.

The midnight reports are not sent until the succeeding morning, the telegraph-office is closed at the proper time of sending. The unc tainty of the telegraphic communication also interferes seriously wi the prompt transmission of cautionary signal orders, which if sent night are frequently delayed several hours until the local telegraph-offi is opened for business the next day.

Considerable interest is manifested in the service, especially in co nection with the cautionary signals, of which thirty-six have been d

ayed during the year. Of this number twenty-eight are reported as
stified at the station.

In reference to several of these signals the observer remarks as fol-
ws:

May 12-13, 1873.—The steamer Saginaw left as usual but returned on account of
avy sea. The Chicago and Milwaukee boats are behind time on account of wind and
a.

September 17-18, 1873.—One vessel remained in port on account of signal.

September 24, 1873.—Quite a number of vessels entered the port for shelter during the
splay of the signal.

The citizens are desirous of receiving reports from the other lake-sta-
ons, but with the present telegraphic facilities it would be impractica-
le to furnish them at the proper hours.

INDIANAPOLIS, INDIANA.

[*Official Number*, 43.]

atitude	39° 47′
ongitude	86° 06′
levation of barometer above sea-level	746.7 feet.

The location of the office remains unchanged since the date of last
eport, but arrangements have been made to remove it to another part
the same building early in October, in order to obtain better facilities
nd more space. Reports from thirty-seven other stations are received
ere in the morning and afternoon, and from seventy-six stations at mid-
ight—the additional ones being copied as they pass between Cincin-
ati and Chicago. No maps are printed, but during the year four thou-
nd seven hundred and fifty-five bulletins have been issued, and one
ousand nine hundred and eighteen press reports furnished for publi-
tion.

Three hundred and twenty-seven river-bulletins and one thousand
ven hundred and thirty manifold copies of the Synopsis and Proba-
ilities have also been posted.

Sergt. C. F. R. Wappenhans remains in charge, and has given full
tisfaction. All reports have been promptly and properly rendered.

Two assistants have been relieved for misconduct during the year.
rivate W. D. Halliday, the present assistant, has been on duty since
ebruary 10, 1873, and is commended by the observer for his steadiness
nd intelligence. He was in charge of the station alone for one month
uring the observer's absence, and rendered all reports in proper form
nd time.

The leading newspapers print the local observations regularly, and
so frequent selections from the general reports and the latest Proba-
ilities received.

The observer speaks in high terms of the courtesy of the telegraph
ficials, by which he has been enabled to perform his duties under the
ost favorable circumstances.

INDIANOLA, TEXAS.

[*Official Number*, 84.]

atitude	28° 32′
ongitude	96° 30′
levation of barometer above sea-level	25 feet.

The office remains as at last report, in Schultz's building on Main street.
o reports are received here from other stations, and the station is there-
re one of observation and report only. The local observations and

monthly abstracts are furnished the only paper published here, and printed in good form.

Sergt. Edward Lloyd was in charge until March 13, 1873, w he was relieved on account of ill health and succeeded by Sergt. Fr Mansfield, who still remains.

All mail reports have been forwarded regularly and promptly, but telegraphic ones have been frequently delayed by accidents to the and the closing of the office at the regular reporting hour.

The midnight reports are uniformly held until the next day and warded with the morning report, and both are delayed even then eral hours because the telegraph-office does not open until the regu business hours of the place.

In reference to the interest taken in the service the observer rema as follows:

> I have noticed that agriculturists appreciate the service even more than the mercial community. One gentleman remarked to me that it depended wholly the signal-service whether the sugar-lands of Texas would ever be fully develope not. In other words, that these lands never could be worked to advantage wit the farmers interested had access to the weather reports.

The station has not been inspected during the year, but the obse reports all instruments and records in good condition.

JACKSONVILLE, FLORIDA.

[*Official Number*, 73.]

Latitude	30
Longitude	80
Elevation of barometer above sea-level	22.9

The location of the office remains unchanged since the date of report. Reports from five other Gulf stations are received here published in the regular matter. During the year three thousand seventy-six bulletins have been issued and four hundred and forty pr reports furnished for publication. The station was inspected in Fe ary of the present year and found in fair condition. Sergt. D. Daboll was in charge until January 2, 1873, when he was relieved account of ill health, and succeeded by Sergt. Richard McLaug who still remains and has given satisfaction. All mail-reports h been forwarded promptly and in proper form. Private W. U. Sim still remains on duty as assistant, and has given satisfaction to the server and to the central office. Considerable interest is manife in the service here, and much regret is expressed at the inability of office to furnish reports from a greater number of stations, especi during the winter, when many visitors from the North spend the sea in Jacksonville and are naturally anxious to know the state of wea at their homes. Both newspapers published at the station print al ports furnished them in excellent form. Owing to a temporary dera ment of the telegraphic facilities the midnight reports from July August 1 were not forwarded until the next morning, and during time the 9 o'clock p. m. reports were sent instead.

Four cautionary signals have been displayed during the yea which three are reported as justified at the station.

The observer makes the following remarks in reference to these plays:

> *March* 23-25, 1873.—Two schooners loaded with lumber delayed going until the was over, the captains ascribing the saving of their vessels to the display of the si
>
> *March* 25-26, 1873.—The steamer City Point waited until after the signal was ered before she left.

KEOKUK, IOWA.

[*Official Number*, 47.]

titude	40° 23′
ngitude	91° 27′
evation of barometer above sea-level	584 feet.

No change has been made in the location of the office since last report.
eports from twenty-nine other stations are received here with as much
gularity as the imperfect telegraphic facilities will permit, and during
e spring and fall reports from all the special river-stations are also re-
ived. One thousand seven hundred and ninety-six regular bulletins
ve been issued during the year. One thousand and ten river-bulle-
ns posted. The newspapers print selections from the river-reports,
d also that part of the Probabilities which applies to the West, but
ecline to use the tabulated reports, and manifest less interest in the
rvice than the press of any other station.

The station was inspected in June of this year, and the instruments
und in good condition. Several irregularities were found in the man-
er of keeping the records, which were corrected before the inspector
ft the station.

Sergeant Daw was relieved from charge of the station November 22,
r neglect of duty in failing to forward his mail reports promptly, and
as succeeded by Sergt. James H. Marsh, who still remains, having
ven general satisfaction.

The assistant on duty at last report was called in for promotion
pril 14, and passed a satisfactory examination after going through the
gular course of instruction at Fort Whipple.

Private Mark Foley is the present assistant, and has performed his
ty satisfactorily.

Regular observations have been made daily of the stage of water in
e river, and reported by telegraph.

The bench-mark used is at the northeast corner of Old Pilot's Indi-
tor, 1,400 feet above the bridge. The height above low water is
.183 feet, and above high water 8.95 feet. The measurement is not
ade from the bed of river.

Depth of water in channel at extreme low water 4½ feet, and at ex-
eme high water 24 feet 9 inches to 25 feet 4 inches.

Considerable interest is manifested by leading citizens in the service,
pecially by those connected with the river trade.

KEY WEST, FLORIDA.

[*Official Number*, 25.]

titude	24° 32′
ngitude	81° 48′
evation of barometer above sea-level	17 feet.

No change has been made in the location of the office at this station
nce last report. Reports from the West India stations are received
ere and transferred by the observer to Lake City, besides being fur-
shed to the press, with the local observations, weekly. The station
as inspected in December, 1872, and the records and instruments
und in excellent condition.. Sergt. M. J. Shanefelter was in charge
ntil February 18, 1873, when, under authority from the central office,
e exchanged stations with Sergt. William Theodovius, then at
unta Rassa. Sergeant Theodovius was in turn relieved July 7, by

Sergt. B. C. Anderson, who still remains and gives satisfaction the promptness and regularity with which his reports are rendered.

One assistant has been called in for promotion during the year, a after going through the regular course of instruction at Fort Whipp passed a satisfactory examination. Private E. K. Moore reported assistant December 23, 1872, and exchanged stations February 18, 187 with the assistant at Punta Rassa, Private M. M. Lewis, who still r mains, and has merited the commendation received from the observ for his faithful discharge of duty. He had entire charge of the stati for several weeks previous to Sergeant Anderson's arrival, and made a reports in proper form and time.

KNOXVILLE, TENNESSEE.

[*Official Number*, 42.]

Latitude	35° 5
Longitude	83° 5
Elevation of barometer above sea-level	993 fe

The office at this station still remains in the University building, a affords sufficient facilities for its station-work, although its distan from the telegraph-office is a disadvantage. No rent is paid for t office, and every facility is extended by the faculty to promote the us fulness of the service. No reports are received here from other st tions, but nine hundred and thirty-six reports of local observations ha been furnished to the press and regularly published. Sergt. John Payne remains in charge of the station, and has furnished all repor promptly and satisfactorily. He has no assistant, but gets occasion aid from the students of the university.

The midnight report is usually delayed until the succeeding day account of the closing of the telegraph-office. The station has not bee inspected during the year.

LA CROSSE, WISCONSIN.

[*Official Number*, 87.]

Latitude	43° 4
Longitude	91° 2
Elevation of barometer above sea-level	686.26 fe

This station was established October 15, 1872, by Sergt. Richa Williams, who still remains in charge and has given satisfaction.

The office is in the business center of the town, at the corner of Se ond and Main streets, convenient to all important public places. T roof exposure for instruments cannot be excelled at the station. T post-office is two squares distant, the court-house and Internation Hotel and the Mississippi River are the same distance. The telegra offices are one square distant.

The instrument-shelter is of the standard model, and projects from window in the second story.

Reports from other stations are not received here, but the local obse vations are furnished regularly to the press, and published in goo form.

The station was inspected in August of the present year, and the re ords found in poor condition. The errors were pointed out and co rected by the inspector, and the observer retained upon his recon mendation, as he appeared to have erred through ignorance alon egular river observations have been made each afternoon, and fur- ished with the usual telegraphic reports.

The zero of gauge is low-water mark of October 1, 1871, and is two et two and a half inches above the bed of the river. The gauge is tached to one of the piles of the bridge leading to North La Crosse.

Telegraphic reports were suspended from January 10 to April 4, 1873, accordance with instructions from the central office.

The inspector reports that considerable interest is felt in the service nong the citizens of the station.

LAKE CITY, FLORIDA.

[*Official Number*, 24.]

titude	30° 13′
ngitude	82° 40′
evation of barometer above sea-level	216 feet.

The location of the office at this station remains unchanged since last port. The reports of three regular stations and all of those from the est India stations are transferred here to the observer at Savan- ah.

No bulletins are published, nor any special local use made of the re- orts, and as the necessity for a station at this point no longer exists s removal to some more useful location is recommended.

The station was inspected in February of the present year, and in- ruments and records found in fair condition. The office and instru- ent-shelter needed repairing, but as there was reason to believe that e station would be broken up at an early date, it was not considered lvisable to expend any more money upon it than was absolutely ecessary, and the repairs were not made.

Sergt. James O'Dowd was in charge of the station until relieved ugust 27, 1873, on account of ill-health. He was succeeded on that ate by Sergt. A. D. Woolcott, who still remains. Both men have ven satisfaction.

Two assistants have been called in for promotion during the year and oth passed the required examination, and are now in charge of sta- ons.

One assistant was ordered in for discharge, and was succeeded by Pri- ate John A. Cody, who still remains.

But little interest is felt in the service by the inhabitants.

LEAVENWORTH, KANSAS.

[*Official Number*, 52.]

titude	39° 19′
ngitude	94″ 58′
evation of barometer above sea-level	813.38 feet.

The office has not been moved since last report, and as it is commo- ous, centrally located, and convenient to the principal business places, change is recommended.

Reports from other stations are not received here, and the only bulle- ns issued are those of the local observations, of which six hundred nd ninety-three copies have been furnished the press during the year, nd published in full by the several newspapers of the city. These apers also publish the monthly abstracts of the local weather, prepared by the observer, and also the Monthly Weather Review, ceived from the central office.

Regular river observations are made daily, and reported in the us manner. The zero of the gauge is fixed at low-water mark in the M souri, which is about one foot above the bed of the river, although t river bottom changes at each flood.

The station was inspected in July of the present year, and found good condition. Some irregularities existed in the manner of keepi the records, but they were corrected by the inspector. Sergt. Geor Boehmer, in charge at the date of last report, was transferred to t central office December 2, 1872, and succeeded by Sergt. George Rowley, who still remains, and whose mail reports have been forward with regularity. His general management of the station was favora mentioned by the inspector.

Private E. W. McGann was ordered in for promotion November 1872, and after going through the regular course of instruction at F Whipple passed a satisfactory examination, and is now in charge o station. His successor, Julius F. Beyer, was fatally injured by falli from the office-window to the pavement, while on duty, and died F ruary 8, 1873. He was a man of excellent habits and fine intelligen The present assistant is private Thomas Jones, who has been on duty that capacity since March 18, 1873.

The midnight reports from this station are not forwarded until t morning following, as the telegraph-office is closed at the regular ti for sending them.

The inspector reports that much interest is felt in the service by t citizens, and a general desire is expressed for the receipt of reports fr other stations on the western rivers and in the Territories. With t present telegraph facilities these reports cannot be furnished in a sat factory manner.

LEXINGTON, KENTUCKY.

[*Official Number*, 90.]

Latitude	38°
Longitude	84°
Elevation of barometer above sea-level	1,083 f

The station was established October 1, 1872, by Sergt. W. Jewell, who still remains in charge and has given satisfaction. T office is in one of the university buildings, and is furnished free of cost the Government. Reports are not sent by telegraph, but the seven r ular observations are made daily, and forwarded by mail at the end each week. No reports are received here. The officers of the u versity have made several urgent requests to be furnished with full ports from Cincinnati once each day, and as the station is one of struction it is recommended that the request be complied with. T observer is commended by the officers of the university for his gene good conduct, intelligence, and attention to duty.

LOUISVILLE, KENTUCKY.

[*Official Number*, 64.]

Latitude	38°
Longitude	85°
Elevation of barometer above sea-level	496 f

No change has been made in the location of the office at this stati ince last report. Reports from nineteen regular stations are received ere, and also from all the special river stations, when in operation.

During the year three thousand three hundred and eleven bulletins f the regular reports and six hundred and ninety of the river reports ave been issued, and seven hundred and fifty-nine reports furnished o the press and published in excellent form. Eight hundred and fifty anifold copies of the Synopsis and Probabilities have also been posted ith the bulletins in the most prominent public places.

The leading daily papers publish, in addition to the tabulated reports, he complete local observations, the river reports, weekly chronicle and onthly abstracts and the latest Probabilities received, and manifest n every way a gratifying interest in the welfare of the service.

The station was inspected in March of the present year, and the office, nstruments, and records found in good condition. The observer in harge, Sergt. R. E. McGrady, was favorably mentioned by the inspector for his attention to duty and courtesy in furnishing information o applicants. After the visit of the inspector, however, Sergeant McGrady began to neglect his work by failing to transmit the mail reports n time, and at length fell so far behind in this respect that he was rdered to Fort Whipple September 22, 1873, and succeeded by Sergt. esse W. Craig, who is now in charge. During the year two assistants ave been ordered in for promotion, one of whom has passed the required examination and is now in charge of a station, and the other is oing through the regular course of instruction at Fort Whipple. Private Ned Warren, the present assistant, has been on duty since July 9, 1873, and given satisfaction by the manner in which he has discharged is duties.

Regular river observations are made daily in the usual manner, the epth of water being taken from a gauge at the foot of Tenth street, hich is used by all river-men and considered reliable.

The zero of this gauge is the sill of the lock of the Louisville and Portland Canal. The bench-mark is the door-sill of house, corner of Tenth and Water streets, and is 28.1 feet above zero. Extreme high ater of February 21, 1832, is 41.8 feet above zero.

LYNCHBURGH, VIRGINIA.

[*Official Number*, 44.]

atitude	37° 30′
ongitude	79° 02′
levation of barometer above sea-level	738 feet.

The office was moved September 1, 1873, to No. 135 Main street, in he building of the First National Bank, where all instruments have a uch better exposure than previously.

Reports from other stations are not received, and therefore the only ulletins issued are those of the local observations, which are furnished egularly to the local newspapers. These papers also print the latest Probabilities received from Washington through the agency of the Southern Press Association.

The station has not been inspected since last report, and the present ondition of the office is therefore unknown, except from the reports of he observer, who states that all instruments are in perfect order.

Sergt. S. B. Murray was relieved from charge of the station January 9, 1873, for neglect of duty in not forwarding his mail reports on time. He was succeeded by Sergt. H. U. Jones, who still remai and has been especially prompt in rendering all reports.

There is no assistant at the station, nor is any considered necessa at present, as the work of the observer is limited to making the sev daily observations and recording them.

In reference to the interest manifested by the citizens in the servic the observer remarks as follows in his report for the six months endi June 30, 1873:

> Lynchburgh being one of the greatest tobacco-markets in the United States, and t greatest manufacturing city, receives undoubtedly the most positive and definite amou of benefit from the system of weather reports of any city in the Union that is situat in the interior. The manufacturers, after a long and patient comparison of t Probabilities and the weather which actually occurs, have arrived at the conclusi that for practical purposes the Probabilities are "certainties," and make their rangements about placing tobacco in the open air in accordance therewith, and th are unanimous in their declarations of appreciable good derived directly from the s nal-service reports in enabling them to prevent a great loss of labor and material.

MARQUETTE, MICHIGAN.

[*Official Number*, 50.]

Latitude	46°
Longitude	87°
Elevation of barometer above sea-level	666.33 fe

The office remains at the corner of Spring and Front streets, in t business center of the town, and within one square of the lake, t telegraph-office, and the most important public houses. The location a good one for the exposure of the instruments. No reports are receiv here, the station being for observation and report and for the display cautionary signals only.

The local observations are furnished regularly to the Mining Journa the only paper published at the station. This paper also prints week abstracts of the local weather. The station was inspected in May of t present year, and records and instruments found in good condition.

Sergt. W. H. Clendenon remains in charge, and has rendered all ports promptly and satisfactorily. The inspector reports that he spoken of in very warm terms of commendation by citizens with who he has official relations. Arrangements were made for the display of ca tionary signals as soon as the telegraphic communication could be lied upon to transmit them promptly; and the first signal was order September 26, 1873. Previous to that date several warnings had be sent to the observer whenever danger was anticipated.

There is no assistant at the station. Since the date of last report t telegraphic communication has been greatly improved, and the repor transmitted with greater regularity.

MEMPHIS, TENNESSEE.

[*Official Number*, 62.]

Latitude	35°
Longitude	90°
Elevation of barometer above sea-level	299 fe

No change has been made in the location of the office since last repo

Reports from nineteen regular stations are received here, and al those from the special river-stations when made. During the year, tv thousand nine hundred and seventy-two tabulated and one thousan five hundred and seventy-seven river-bulletins have been issued, a our hundred and sixty-five press reports furnished for publication. ne thousand and fifty-six manifold copies of the Synopsis and Probbilities were made and posted with the bulletins previous to August 5, on which date the printed issue to post-offices was commenced. ifty-nine offices are supplied with two copies each daily, the total numer issued to date being three thousand seven hundred and seventy-six.

The station was inspected in March of the present year, and reported 1 excellent condition.

Sergt. S. W. Rhode remains in charge, and has rendered all reports romptly and in proper form. His semi-annual reports are especially vell prepared.

Privates John D. Sumet and James T. Clements are on duty as assistnts, and are both favorably mentioned by the observer for their good onduct and faithful attention to duty. One assistant (Private A. G. 'assin) has been ordered in for promotion during the year, but, receivng a commission as second lieutenant in the Army before completing is course of instruction at Fort Whipple, was not examined.

The following extracts from the semi-annual report of the observer or the period ending June 30, 1873, will give a fair idea of the interest nanifested in the service:

> As to the use made of the reports received at this station, I have to report that I am ften called upon by the railroad and express companies to know the condition of the 'eather. These companies are often sued for damages to goods from being exposed to ne rain and sudden changes in the temperature. It is a very important matter to nem to know the condition of the weather while these goods were in their charge. I ave always been able to furnish the information these parties desired, the Weekly 'eather Chronicle being very useful in this connection. One brickmaker stated to e that he had often saved as high as two and three hundred dollars a day by giving ose attention to, and heeding the warnings given in, the Probabilities.
>
> The increase of the river-reports was highly commended by the river-men, and this ovement by the Department in their behalf has been duly appreciated by every one onnected with the river. The planters along the river also give close attention to the ver-reports, as they can now have several days' warning of an overflow.
>
> The cotton-factors of this city also manifest considerable interest, and this office is isited almost daily by cotton-men, desiring information as to the amount of rain-fall, mperature, &c., in the cotton States. The river-men have been very profuse in their ncomiums, as the river-reports of the service have been of great value to their interts. The additional river-station shave been very valuable to them, and there is no oubt but that, by the present system, an immense amount of property can be saved the planters in the Lower Mississippi Valley. The service has gained a fast hold on e people of this city, and there are certain portions of the public that have saved so uch by heeding its warnings that they would not know what to do without it.

Regular river observations are made at this station and reported in e usual manner. The gauge used is one constructed by the United tates Engineer Corps, as stated in the last annual report.

MILWAUKEE, WISCONSIN.

[*Official Number*, 38.]

atitude	43° 03
ongitude	87° 54′
levation of barometer above sea level	661.4 feet.

The office was removed in April to an adjoining room in the same uilding, but, while centrally located, labors under the disadvantage of eing imperfectly heated during the winter months. Efforts will be ade to remedy this defect before the cold weather renders the office ncomfortable.

Reports from fifty-seven stations are received here, of which seven are transferred to Chicago in addition to their publication at the station the usual manner.

During the year one thousand eight hundred and fifty-three ma and three thousand five hundred and sixty bulletins have been issue and four hundred and fifty-five press-reports furnished for public tion.

Eight hundred and forty-nine manifold copies of the Synopsis a Probabilities have also been made and posted with the bulletins in t most prominent public places.

The station was inspected in April of the present year, and t records and instruments found in good condition.

Sergt. D. H. Sackett was relieved March 20, 1873, on account of personal difficulty with the telegraph-operators, in which he does n appear to have been the most at fault. He was succeeded by Serg H. M. Ludwig, who still remains in charge and has given full satisfa tion by the able manner in which he has discharged his duties.

One assistant has been transferred to the central office during t year. His successor, Private A. Dunhauser, was ordered there Ap 1, 1873, and still remains. His conduct has been favorably mention by the observer.

Thirty-six cautionary signals have been displayed during the year, which twenty-four are reported as justified at the station.

In reference to these displays the observer remarks as follows:

> *October* 15–16, 1872.—High northerly winds prevailed on the lake, and vessels p back to port and remained until the signal was lowered.
>
> *October* 29–31, 1872.—Sailing-vessels remained in port; steamers went out, but turned and remained in port until the gale abated.
>
> *November* 7, 1872.—Heavy gale on the lake.
>
> *November* 13–14, 1872.—Vessels that were out put back to port and waited until t signal was lowered.
>
> *November* 25, 1872.—The vessels remained in port.
>
> *November* 28–30, 1872.—Vessels remained in port. The majority are laid up for t winter.
>
> *November* 30–*December* 2, 1872.—Wind, accompanied by snow. One vessel disobey the signal and went out, but met with a heavy sea which compelled her to put back port.
>
> *December* 2–3, 1872.—No vessels going out; all laid up for the winter.
>
> *April* 7–10, 1873.—No sailing-vessels left port. No casualties reported.
>
> *September* 17–18, 1873.—Very few departures during the display of the signal, a damage to shipping reported. A rough sea experienced by Milwaukee-bound vesse
>
> *September* 24–25, 1873.—Vessels remained in port until the wind veered to the sout west, of which several took advantage and cleared. The bark Unadilla lost her mi zen-topmast by rough weather on Lake Michigan on Wednesday, and the schooner J. Whaling foundered at Grand Haven and is a total loss.
>
> *September* 26–27, 1873.—Vessels remained in port during the continuance of sout east wind and cleared with the southwest.

The leading newspapers print the tabulated reports, the weekly a monthly abstracts, and the latest Probabilities received up to the tim of going to press. The inspector reports that the citizens display marked interest in the service. In reference to this subject the observ remarks:

> Farmers and visitors from the surrounding country, whom I frequently meet, speak with the highest praise of the benefits derived from the reports, and especial the Probabilities, which have been unusually correct for this region. Numerous vess owners and others interested in shipping study the Probabilities for anticipat changes in the direction of the wind, and accordingly regulate their vessels for ea departure or otherwise, as the case may be. Cautionary signals, when up, are a closely watched, and cases have come under my personal notice where vessels delay their departure during the display of the signals.

MOBILE, ALABAMA.

[*Official Number*, 27.]

Latitude	30° 42′
Longitude	88° 11′
Elevation of barometer above sea-level	41 feet

No change has been made in the location of the office at this station since the date of last report. No reports from other stations are received here, but during the year one thousand seven hundred and twenty-three bulletins and one thousand four hundred and sixty-six press-reports of local observations have been issued by the observer, in addition to five hundred and forty-seven manifold copies of the Synopsis and Probabilities made and posted with the bulletins. The station was inspected in February of the present year, and instruments and records found in good condition.

Sergt. D. O'Donoghue remains in charge, and has given entire satisfaction. All reports have been rendered promptly and in excellent form. Two assistants have been called in for promotion during the year, one of whom has passed the required examination, and the other is still under instruction. Private C. A. Smith is the present assistant, and is commended by the observer for his attention to duty.

Thirteen cautionary signals were ordered during the year, of which five are reported as justified at the station. Several of these signals were delayed in transmission until their time of usefulness had passed.

In reference to the display of April 1, 1873, the observer remarks: "A few vessels not taking warning were driven from their moorings."

The inspector reports that the citizens are very much interested in the service, and are anxious to have reports from other stations.

The secretary of the cotton-exchange made a most earnest request through him, that the cotton-exchange be furnished with reports from the cotton States during the cotton-growing season at least. He states that these reports are of the utmost value to cotton-merchants, as they show the actual state of the weather at the points where stations are located, and upon this data the business men rely in a great measure in making their calculations as to the probable value of the crop.

MONTGOMERY, ALABAMA.

[*Official Number*, 26.]

Latitude	32° 22′
Longitude	86° 23′
Elevation of barometer above sea-level	249.9 feet.

The office at this station remains at 49 Market street, in the business portion of the city. It was inspected in February of the present year, and found in a fair condition. Upon the recommendation of the inspector, the instrument-shelter has been remodeled and painted, to procure a better exposure for the instruments. It is also intended to remove the office to a more suitable building, but as yet none has been found.

Sergt. George A. Clum remains in charge, and has forwarded his reports promptly and in good shape; and as no reports are received here from other stations, he has been without an assistant until September 11, 1873, when the station was made one of the southern centers for the distribution of the daily Synopsis and Probabilities to post-offices, and Private H. E. Armstrong, a printer, ordered here as assistant.

Commencing September 20, 1873, the midnight Synopsis and Proba ities are received by telegraph and are printed, and two copies mailed daily to forty-five post-offices.

The press has been furnished with and published the daily local servations and the monthly summaries.

MOUNT WASHINGTON, NEW HAMPSHIRE.

[*Official Number*, 46.]

Latitude	40° 16′
Longitude	71° 16′
Elevation of barometer above sea-level	6285.4

The office at this station was located during last winter in the de of the Mount Washington Railway Company, on the summit, and d ing the summer was moved from one building to another, belonging the same company, until it was finally settled permanently, in Septe ber, in a comfortable and roomy house built for this especial purpo at the expense of the central office, by Mr. Walter Aiken, to whom office is indebted for many courtesies shown the observers, and for va able assistance rendered on many occasions. The station was inspec in December, 1872, and an officer is now on his way to make anot inspection. The station was found in excellent condition when l visited, all instruments and records being in good working ord and the men comfortably situated. Sergt. A. R. Thornett remains charge, and has given entire satisfaction by the regularity, neatness, a promptness with which all of his reports have been forwarded. He sent most of his own telegraph reports during the year, having learn to operate with sufficient skill. Sergt. William Line also remains the station, and is warmly commended by the observer in charge for ability and zealous attention to duty. Private William Ramsay w ordered in for promotion July 1, 1873, and, after the usual instructi passed his examination, and is now in charge of a station. An ex assistant was sent to the station during the time the special obser tions were made, of which a separate report has already been submitt to you. He was recalled August 4, 1873, and succeeded by Private De Rosher, who performs his duties satisfactorily. A great amount extra labor was thrown upon Sergeant Thornett in connection with t establishment of the special stations on the side of the mountain, a he is entitled to praise for the faithful and intelligent manner in whi he performed it.

The following estimate of provisions required for the supply of thr persons for eight months is given as the result of the observer's perience, and as a guide for future occupants of the station:

3	barrels flour.	1	barrel ship-bread.
1	bushel corn-meal.	1	barrel plate-beef.
5	dozen 3-pound cans tomatoes.	5	dozen 2-pound cans corn.
8	dozen 1-pound cans milk.	2	dozen 3-pound cans beef.
45	pounds Java coffee.	1	barrel white sugar.
1	pound mustard.	1	pound pepper.
25	pounds baking-powder.	1	keg standard sirup.
1	keg vinegar.	2	boxes raisins.
3	kits mackerel.	60	pounds corn-starch.
250	pounds fresh beef.	25	bushels potatoes.
2	barrels onions.	3	gallons English pickles.
60	pounds butter.	50	pounds ham.
6	pounds tea.	25	pounds rice.
1	box table-salt.	3	boxes herrings.
50	pounds dried apples.	50	pounds dried peaches.
2	bushels beans.	3	bars castile soap.
10	bars extra soap.	150	pounds fresh pork.
1¼	pounds assorted spices.		

A few cans jelly, chickens, &c., for use in case of sickness; some obacco, and a few herbs, such as sage, &c. Some unknown ladies have indly given the observer about one hundred volumes of the latest novls and other interesting publications, to amuse the men on station durng their long and dreary winter isolation. It is to be regretted that he names of the generous donors are unknown, in order that their houghtful kindness might be suitably acknowledged.

As in previous years the thanks of the office are due to Mr. Walter iken and Capt. J. W. Dodge, of the Mount Washington Railroad Comany, and to Mr. Benjamin Kilburn, of Littleton, for their continued ssistance in many ways.

The line has been kept in good repair from base to summit during he year, and the interruptions that have occurred in communication ave been caused at points beyond the control of the observer.

MOUNT WASHINGTON, NEW HAMPSHIRE.

[*Base.*]

levation of barometer above sea-level.................................. 2,898.3 feet.

This station was opened May 1, and observations made regularly ntil June 30, 1873, in connection with the summit and other stations. detailed report of their observations has been already submitted. ergt. Robert Seyboth was in charge of the station, and had two asistants. All the men were faithful in the discharge of their duties, nd the full records were brought to the central office in excellent shape nd condition. One of the assistants (Private William Seely) was tally injured, June 28, by falling from the railway trestle-work, and ied at Littleton, to which place he had been removed for medical reatment.

He was an honest and faithful man, and his loss was greatly deplored y his comrades. A full account of the accident will be found in the ournal of Sergeant Seyboth for June 28, 1873, given in the special reort already referred to.

MOUNT WASHINGTON, NEW HAMPSHIRE.

[*Station No.* 2.]

levation of barometer above sea-level.................................. 5,553.3 feet.

This station was opened by Sergt Edward Lloyd, assisted by rivates A. L. Bowie and G. H. Crane, June 1, and discontinued June 0, 1873.

It was located in a railway-car, furnished through the courtesy of the ailway company, and which answered the purpose admirably, except uring the prevalence of high winds, when it was shaken so violently hat the mercury in the barometer oscillated far beyond its normal ange, and caused the discrepancies that will be occasionally noticed in he readings of this station. All the records were brought in to the entral office in good shape, and will be found in the detailed report of hese special observations.

MOUNT WASHINGTON, NEW HAMPSHIRE.

[*Station No.* 3.]

levation of barometer above sea-level.................................. 4,058.7 feet.

This station was located in the Waumbeck House, and opened June by Sergt. D. H. Sackett and Privates C. R. Daw and J. A. Barwick.

It was broken up June 30, 1873, in common with the other spe stations. The records were brought into the central office in g shape, and are given in the detailed report of these special observati

MOUNT MITCHELL, NORTH CAROLINA.

[*Summit.*]

Latitude	35
Longitude	82
Elevation of barometer above sea-level	6,691

This station was established by Sergt. W. E. Smith, and observati began May 11, 1873, and were continued until September 6, as set f in the special report already submitted to you.

The men labored under many difficulties, and two of them were fitted for duty a part of the time on account of sickness brought on exposure.

One of these men, Sergt. W. A. Chapman, was not able to tr when the station was broken up, and has not yet reported at his pr post.

The records of the station were kept in a neat manner, and no ob vations were omitted.

MOUNT MITCHELL, NORTH CAROLINA.

[*Base.*]

Elevation of barometer above sea-level	2,560

This station was established by Sergt. D. H. Sackett to be worke connection with the summit station, with which regular communica was maintained by signal. The first observations were made Aug 6, and continued until September 6, when the station was broken up the party returned to Washington.

A detailed account of the work done will be found in the special re already submitted to you.

All observations were made properly and the records kept neatly correctly.

MORGANTOWN, WEST VIRGINIA.

[*Official Number*, 92.]

Latitude	39
Longitude	79
Elevation of barometer above sea-level	991.23

The office at this station was located on the second floor of the W Virginia University building until August 1, 1873, when a more su ble and convenient office on the third floor was kindly provided by president of the university. The roof instruments are well expos the instrument-shelter is of the authorized pattern, and projects fro window facing 26° east of north.

The office is furnished by the university free of cost.

Sergt. Charles R. Daw opened the station January 28, 1873, but lecting his work he was relieved for neglect of duty and reduced to ranks. Sergt. Thomas L. Watson succeeded him in charge of the sta April 22, 1873.

This man also failed to attend to his work properly, and upon the mendation of the inspecting officer, who visited the station in August the present year and found it in a neglected condition, was at once ieved and reduced to the ranks. Sergt. J. D. M. Fee took charge gust 25, 1873, and still remains and gives satisfaction.

This station being one of observation only, no reports are sent by egraph, except occasional mid-day barometrical reports, and since ay 3, 1873, also one report of the stage of the water at 3 p. m. daily. The river-gauge used at this station rests upon the bed of the river, d the reports, consequently, indicate the exact depth of water in the annel.

No reports are received here from other points, and consequently no aps or bulletins are issued. The monthly summaries are furnished to d published by the Morgantown Post, a weekly paper.

The station is highly valued by all the officers of the university, and ere are reasons to believe that the present observer will extend his here of usefulness.

The office is indebted to Dr. Alexander Martin, the president of the iversity, for valuable aid rendered in connection with the station.

NASHVILLE, TENNESSEE.

[*Official Number*, 63.]

titude	36° 11′
ngitude	86° 53′
vation of barometer above sea-level	504 feet.

No change has been made in the location of the office at this station ce the date of last report, nor is any considered necessary, as it is in e business center of the city, and within easy reach of the telegraph- ices. Reports from nineteen regular stations are received here, besides those made from the special river-stations. During the year, three ousand three hundred and seventy-two tabulated bulletins and one ousand and seventy-three river-bulletins have been issued, and two ndred and eight reports furnished on the regular form to the press for blication. The full local observations have also been constantly given the press, in addition to a daily abstract of the weather at the several ations from which reports are received.

This abstract is prepared by the observer, and has been received with rked favor. This station having been selected as one of the centers distribution for the Synopsis and Probabilities to post-offices, the reg- ar issue to ninety-six offices commenced September 4, 1873, and has en continued regularly since that date. The station was inspected in arch of the present year, and found in excellent condition. Sergt. W. Kauffman was in charge at the time, and the inspector commended n in warm terms for intelligence and zeal. He was transferred May 1873, to Chicago, and Sergt. A. C. Ford from that station took his ace. The duties have been well and faithfully performed by Sergeant rd.

Two assistants have been called in for promotion during the year, th of whom passed the required examination after going through the ual course of instruction at Fort Whipple.

Privates Stansell and O'Brien are the present assistants, the latter ing a printer, sent to assist in getting out the post-office bulletins. th men are favorably reported upon by the observer for their atten- n to duty. The citizens manifest a gratifying interest in the service, pecially that part of it connected with the river-reports. The observer has been called upon several times to furnish the records of his offic evidence in lawsuits of importance.

Regular river observations are made at this station, and reported the usual manner. The river-gauge remains on the southern face of northern draw-pier of the Louisville and Nashville Railroad bridge, a the zero of the gauge corresponds to extreme low water in the Cu berland River. Referring to these reports, the observer remarks as lows in his journal for June, 1873:

> In conversation with the president of the board of trade and other business me the city, the observer learned that the river-reports of the signal-service were doi great deal of good with the shippers of the place. A conversation had with the se tary of the board, and a large tobacco-dealer, is submitted entire.
>
> *Question by observer.* Do you think that the weather-reports of the signal-service of any local or immediate benefit to this community?
>
> *Answer.* O, yes, a very great benefit; for instance, I am in the tobacco business tensively, and to me the river-reports are particularly valuable, and so to others in pursuits. If we want to ship freight by water, we can tell before it leaves whethe can go through or not, without reshipping, knowing the draught of the boat on wh we load and the stage of water in the rivers we intend to run her in; nothing is eas This, too, makes a difference in insurance rates in favor of the shipper, the compa charging higher rates if the cargo is to be reshipped, for they say, "we don't k what kind of a boat you will transfer to," and the risk is greater.
>
> *Observer.* Have the Probabilities ever attracted your attention?
>
> *Answer.* I watch them like a hawk. I have also a farm about three miles from city, and have utilized these predictions in carrying on my farm. I cut hay, plant c harvest, &c., when the indications are favorable by the reports.

NEW LONDON, CONNECTICUT.

[*Official Number*, 14.]

Latitude	41°
Longitude	72°
Elevation of barometer above sea-level	24.6

No change has as yet been made in the location of the office, bu removal to a more suitable building is in contemplation.

Sergt. C. E. Brinsmade, who was in charge at the date of last port, was relieved and reduced to the ranks on December 2, 1872, absenting himself from the station without leave. He was succeeded Sergt. Timothy O'Neill, who still remains in charge and has rende his reports in good shape and given satisfaction.

Private Mark Foley, who was on duty at the date of last report, ordered in for promotion January 21, 1873, and was succeeded by Priv C. J. Costello, who remains, and is reported attentive to duty at prese although inclined to show himself indifferent when first ordered here

Reports are received here from twenty-four other stations, and dur the year two thousand nine hundred and thirty-four bulletins and thousand and ninety-two copies of the Synopsis and Probabilities ha been posted, and one hundred and fifty-one reports furnished press.

Thirty-nine cautionary signals have been displayed during the ye twenty-seven of which are reported as justified at the station.

The following are some extracts from the observer's remarks upon cidents connected therewith:

> *January* 5–7, 1873.—No damage to vessels, all remaining in port except one, wh sailed about an hour before the signal was hoisted, and returned on the 7th disma and rigging all gone.
>
> *February* 7–8, 1873.—No injury to vessels, all remaining in port.
>
> *March* 10–11, 1873.—No injury to vessels, all having taken shelter in port when cautionary signal was hoisted.

The interest manifested in the service at this station remains baated.

NEW ORLEANS, LOUISIANA.

[*Official Number*, 28.]

atitude	29° 58′
ongitude	90° 07′
levation of barometer above sea-level	55.81 feet.

The only change made in the office at this station since last report has een its removal to another room on the same floor, which did not affect ne elevation of the instruments. Reports from twenty-one regular sta- ons are received here, in addition to those from all the special river- tations. The reports from Shreveport, Indianola, and Galveston are ransferred to Cincinnati as received.

Five thousand five hundred and seventy-three regular, and three ousand four hundred and fifty-one river-bulletins have been issued uring the year. Thirty post-offices have been regularly supplied with ne printed midnight Synopsis and Probabilities since September 15, 873.

The leading papers print the river-reports, the monthly abstracts of ocal weather and the latest Probabilities received through the agency f the Associated Press, with occasional selections from the tabulated eports. The station was inspected in February of the present year nd the office found in a very unclean and disorderly condition. The nstruments and records were in good order, however, and all reports ad been properly made, and the unfurnished state of the office-room ppeared to be the principal cause of the disorder noted. The observer as not recalled. Since the removal of the office no complaint has been ade.

Sergt. Frank Mansfield was in charge until March 7, 1873, when he as transferred to Indianola, and succeeded by Sergt. Nelson Gorom, ho still remains, and has given satisfaction by the promptness and egularity with which all reports have been rendered.

Private D. C. Ralston, the assistant at last report, was ordered in for romotion March 14, 1873, and passed a satisfactory examination after oing through the regular course of instruction. Three assistants are ow on duty at the station, one of whom is a printer, charged with the sue of post-office bulletins. Two of them are favorably reported upon y the observer, but the third man has only been on this station a few ays, and his capacity is therefore unknown.

Regular river-observations are made here and reported in the usual anner. The gauge used is one put up by the city engineer as stated last year's report.

The bench-mark is high-water mark of 1871, (and is marked on the ty tide-gauge,) at which the zero of gauge (from which all river-measure- ents are made) is placed. From this point to the bottom of the river approximately 178 feet. The zero is 15 feet above sea-level and 10.5 et below the city datum-line.

Merchants and others interested in shipping take a lively interest in ne reports, and express an earnest desire to have more of them than e received at present, especially from the cotton-growing States.

Twelve cautionary signals have been displayed here during the year, which five are reported as justified at the station.

NEW YORK CITY.

[*Official Number*, 15.]

Latitude	40° 42′
Longitude	74° 00′
Elevation of barometer above sea-level	165.60

The only change made in the office at this station during the year
been its removal to two rooms on a lower floor of the Equitable bu
ing. These rooms are the same size as those previously occupied,
are more easily reached. Reports from all stations are received h
and are transferred to the several circuits over which they are distri
ted. The transfer requires prompt action and correct judgment on
part of the observer, especially when—as frequently happens—som
the telegraph lines are broken. This duty has been performed by
in a generally satisfactory manner. During the year forty-one thous
six hundred and thirty-six maps, containing the full midnight repo
have been printed and ready for distribution by daybreak daily, and
thousand nine hundred and seventy-seven bulletins have been issue
the regular manner. The issue of printed copies of the Synopsis
Probabilities to six hundred and seven offices was commenced Febru
25, 1873, and since that date two hundred and thirty-eight thous
four hundred and twenty-eight copies have been sent. These bullet
must be in the post-office by 5 o'clock a. m., daily, and the promptn
and regularity with which they have been delivered shows the duty
have been well performed by all engaged upon it. The station was
spected in January of the present year and found in good conditi
Sergt. C. R. Estabrook remains in charge, and has given entire sa
faction by his management of the station. Sergt. M. F. Tighe
remains as the senior assistant, and is highly commended by the ob
ver for his close attention to duty. There are four other assistants
duty, of whom two are printers, and all are worked to their full capac
in getting off the large daily issue of publications. An additio
printer is furnished by the Equitable Insurance Company to assist
getting out the maps, and that company also furnishes a messenger
distribute a portion of them. All the present assistants are favora
mentioned by the observer. One man was relieved during the year
misconduct at this station and one for discharge.

Thirty-nine cautionary signals have been displayed here during
year, of which twenty are reported as fully, and one partly, justified
the station. Much complaint is made by sailors of the want of b
liancy of the signal-light, which is not distinguishable from the bay,
is therefore practically useless. Arrangements are making to sup
the station with a conspicuous light that will be easily visible at a
tance of three miles or more.

In reference to the display of signals the observer remarks as follo

January 5–6, 1873.—Owing to the signals having become loaded with ice, thus end
gering the safety of the people in the streets below, they were loosened at 3 p. m.,
again raised at sunset.

January 23–24, 1873.—Three coasting vessels known to have remained in the ha
on account of the warning.

February 7–8, 1873.—A large number of lighters were observed to seek safe positi
in the harbor in advance of the gale.

NORFOLK, VIRGINIA.

[*Official Number*, 30.]

Latitude	36
Longitude	76°
Elevation of barometer above sea-level	55.52

The location of the office remains unchanged. Sergt. James E. agruder, who was in charge at the date of last report, was relieved ebruary 18, 1873, for misconduct, and subsequently discharged the rvice. His successor, Sergt. E. W. McGann, remains in charge, id has given entire satisfaction. The station was inspected in Feb- iary of the present year, and upon the recommendation of the inspect- g officer the above-mentioned change in the observers was made.

Private E. B. Robbins, who was on duty here as assistant at the date last report, was called in for promotion and succeeded by Private . T. Carvalho, who still remains, and has also given satisfaction.

No reports have been received here during the present year, and no aps and bulletins are issued. The leading dailies, however, publish ie monthly summaries and the Probabilities. Thirty cautionary signals ave been displayed, and thirteen are reported fully justified and six artly so.

The observer remarks as follows on some of these signals:

October 23–26, 1872.—No injury known to have resulted to commercial or other inter- ts. The rain-fall during the storm amounted to 7.47 inches.

March 3–5, 1873.—No vessels left port during the display of the signal. Many were ixious to leave, but did not do so until two hours after the signal was lowered.

March 11, 1873.—No vessels left port during the display of the signal.

March 15–17, 1873.—No injury known to have been done.

March 18–19, 1873.—No injury known to have been done to shipping.

March 19–22, 1873.—A heavy gale which lasted one hour, during which considerable image was done to several vessels in port. One life was lost by a schooner being rown on her beam-ends. A number of vessels remained in port until the signal was wered.

April 16–17, 1873.—No vessels left port. One steamer, the N. P. Banks, attempted to ave but was compelled to put back.

April 22–24, 1873.—A heavy sea outside. Ten vessels remained in the roads until the gnal was lowered.

September 19–20, 1873.—No boats left during the display of the signal. The steamer . P. Banks, attempting to leave port, was compelled to put back on account of high a.

NEW HAVEN, CONNECTICUT.

[*Official Number*, 96.]

atitude	41° 17′
ongitude	72° 57′
levation of barometer above sea-level	107.1 feet.

The office is located in the upper story of the new insurance building, 38 Chapel street, a six-story structure, and affords an excellent expo- ire for all the instruments. It stands in the business center of the city, id is within a short distance of the post and telegraph offices. The istrument-shelter is of the authorized form, and projects from a window cing north.

The roof-instruments are located on the tower-deck, at an elevation one hundred and twenty-seven feet above the curb. In the center of ie deck stands the flag-staff for the display of cautionary signals, and om its height (one hundred and fifty-seven feet above the ground) can e easily seen from all parts of the harbor.

The rent paid for this office is $18 per month, and the thanks of the ffice are due to the members of the New Haven Chamber of Commerce r their valuable aid rendered this office in procuring so favorable a cation.

Sergt. William Black opened the station on December 10, 1872. It eing one of observation and for the display of cautionary signals ily, no reports are sent to the central office by telegraph, except occasional mid-day reports, in accordance with instructions on this su ject. The regular number of daily observations are, however, ma here, and transmitted weekly by mail. They have all been render promptly and in good shape.

The station was inspected in January of the present year, and report in good condition.

No reports being received here, there are no bulletins or maps issue and the local observations and monthly summaries only are furnished and published by the press.

The first cautionary signal was displayed on March 8, 1873, and seve teen have been ordered since, eleven of which have been reported justified at the station, and two partly so.

The following are some extracts from the observer's remarks up these signals:

> *March* 24–27, 1873.—The signal was justified, and gave general satisfaction by t prediction, so far in advance, of the two consecutive days' rain, sleet, &c., and t subsequent northwesterly gale. Several instances of benefit reported.
>
> *April* 16–18, 1873.—One schooner heeded the signal, and avoided rough weather.

Much interest is manifested in the service by the shipping interes of the place and vicinity, and frequent applications have been receiv from these quarters for telegraphic-reports from other points.

The observer also makes the following remarks in his semi-annu report for July 1, 1873:

> The press-reports furnished by the central office are published in excellent form, a held in high esteem. The telegraph-operators are required to hold open at night, af the hours of regular business, in order to get the latest Probabilities for publication the morning newspapers. One editor reports that the country circulation of his pap has been greatly increased during the past spring by the accuracy of the publish weather information.

NORTH POLAR EXPEDITION.

Sergt. Frederick Meyer, the observer sent with this expeditic returned to Washington early in June of the present year witho records or instruments, having lost everything at the time of his sep ration from the vessel, as described in his special report already su mitted. He was fortunate, however, in retaining note-books containi important topographical data, which have enabled him to chart t Arctic regions to a point farther north than any before reached by e plorers.

OMAHA, NEBRASKA.

[*Official Number*, 67.]

Latitude	41°
Longitude	96°
Elevation of barometer above sea-level	1,045.69 fe

The office was removed November 29, 1872, to the corner of Thirteen and Farnam streets, where it still remains. It is centrally located a convenient to all the principal public places, and the roof exposure f instruments is as good as can be obtained in the city. The instrumen shelter is of the standard pattern and projects from a window facing t north. Reports from nine other stations are received here irregular and furnished to the press. During the year five thousand one hundr and eighty-eight bulletins have been issued. The monthly abstracts a published regularly by the local papers, and also by several papers the interior. The station was inspected in the latter part of July of th year and found in such a disorganized condition that the observer was mmediately relieved and, upon the recommendation of the inspector, reduced to the ranks and his place filled August 13, 1873, by Sergt. Thomas Cleary, who has rendered all reports promptly and in proper orm. One assistant has been ordered in for promotion during the year nd passed the usual examination in a satisfactory manner. Private ohn McCann is the present assistant, and has performed his duties aithfully while on the station.

Regular river observations are made daily and reported in the usual manner. The gauge used is attached to a pier of the Union Pacific Railroad bridge and its zero is the low-water mark of 1867. The high-water mark of the same year is 19 feet above zero of gauge.

OSWEGO, NEW YORK.

[*Official Number*, 31.]

atitude	42° 28′
ongitude	76° 35′
levation of barometer above sea-level	299 feet

No change has been made in the location of the office at this station ince its establishment, nor is any considered necessary. Reports from fty-five stations are received here and published in the usual manner.

During the year, two thousand seven hundred and three maps and hree thousand two hundred and twelve bulletins have been issued, and ive hundred and eighty press-reports furnished for publication, in addition to the full local observations.

The station was inspected in February of the present year, and found n excellent condition. Sergt. B. F. Hough remains in charge, and as forwarded all reports promptly and satisfactorily. The inspector eports that he is "an extremely zealous, energetic, courteous, and ffective man."

The self-registering wind-vane, constructed by the observer and eferred to in the last annual report, continues to work satisfactorily.

Two assistants have been called in, successively, from this station uring the year for promotion, and after receiving the usual instruction passed their examination. Private E. Bird is the present assistant, nd gives satisfaction.

Twenty-three cautionary signals have been displayed, of which eleven re reported as justified at the station. In reference to these signals, he observer remarks as follows:

November 7–8, 1872.—A number of vessels were kept in the harbor by the display of he signal, and were benefited thereby.

November 13–15, 1873.—Many vessels remained in port that would otherwise have een caught out, had it not been for the display of the cautionary signal—this I learn rom officers of vessels.

November 27–28, 1872.—No damage reported.

November 29–*December* 1, 1872.—No injury is known to have resulted to commercial nterests.

The two daily newspapers at the station publish selections from the abulated reports, all the local observations, the monthly abstracts of he local weather and the latest Probabilities received.

A permanent interest in the service is manifested by the leading citiens. In reference to this subject, the observer remarks as follows:

The citizens manifested the usual amount of interest in the weather reports. Those ost interested are the contractors, builders, shipping and commercial men, though he mariners, as a class, have derived the greatest benefits. I have the names of some who have told me that, by means of the weather-reports and information obtained from this office, they have made one or two trips more than other vessels sailing fr the same port. At the close of navigation last fall, when the insurance rates w high, captains and owners of vessels visited the office, watching their chance to s without insuring cargo or vessel. One man in particular, the owner of a propell came regularly for two or three days, and made his trip to Hamilton, Ontario, witho insuring, which was a saving to him of $350.

PEMBINA, DAKOTA.

[*Official Number*, 86.]

Latitude	49°
Longitude	97°
Elevation of barometer above sea-level	790 fe

The office is located in [illegible]e-story building, about two hundred yar from Fort Pembina. The instrument-shelter projects from a north wi dow and is of the authorized pattern. There being a scarcity of hous in this country, the location is the best obtainable. Sergt. Alfr Brimer opened this station, but was subsequently discharged the ser ice, and was succeeded by Sergt. George McDonald, who commenc taking observations November 1, 1872. This man proved to be of inte perate habits and neglected his work, and a request was subsequent sent to the commanding officer at Fort Pembina to place him und arrest and prefer charges against him for drunkenness and neglect duty. This was done and he was tried before a general court-marti convened at Fort Pembina, and by the sentence of the court dishon ably discharged the service of the United States May 14, 1873. examination of the records shows that he had failed to take seven o servations in December, 1872, and forty-four in January, 1873.

Sergt. Sidney Powell was ordered to this station January 30, 187 and Sergeant McDonald being in confinement, and the new observ taken ill shortly after his arrival, there were one hundred and fifty-thr observations missed during the following month before he recovered.

The station was inspected in May of the present year and found in fair condition. No reports are received here, and consequently no ma or bulletins are issued.

Much irregularity has been experienced in the transmission of repo by telegraph on account of the unprotected and exposed condition the line. The office is indebted to Lieut. John Bannister, Twentie Infantry, who has acted as telegraph-operator, while stationed at Fo Pembina, for valuable assistance rendered the observer. Upon t recommendation of the inspector, the office was furnished with a co plete set of telegraph-instruments to enable the observer to send h reports himself in case of emergency. There is no assistant at th station, and none is considered necessary.

PHILADELPHIA, PENNSYLVANIA.

[*Official Number*, 17.]

Latitude	39°
Longitude	75°
Elevation of barometer above sea-level	71.12 fe

No change has been made in the location of the office since the da of last report, but through the courtesy of the officers of the chamb of commerce an additional room has been furnished free of expense the Government, which adds greatly to the comfort of the observe and to the facilities for performing their work.

A serious objection to the present office consists in the want of prop eans of heating the rooms during that portion of the day when it is not cupied for business purposes, as there are no facilities for putting up stove in any one of the office-rooms. Unless this difficulty is overcome fore the approach of cold weather, it will be necessary to remove to me more favorable locality.

Reports from all stations are received and published here in the usual anner. The maps issued are printed from the midnight reports and e ready for distribution by daylight.

The members of the meteorological committee of the chamber of mmerce assist in distributing the maps, and a wider circulation is ereby given them than could be attained by the force of the office one.

During the year twenty-four thousand two hundred and sixty-seven aps and five thousand six hundred and seventy-nine regular bulletins ve been issued.

Two hundred and eighty-one press-reports and one hundred and eight ver-bulletins have been furnished for publication, and one thousand d twenty-four manifold copies of the Synopsis and Probabilities sted with the bulletins.

The station was inspected in January of the present year and found good condition so far as the instruments and records were concerned.

Sergt. W. T. Boyd remains in charge, and has performed all his duties an unusually able and intelligent manner, and bears an excellent putation among the business men with whom he has official relations.

Eight assistants have been relieved in succession from this station ring the year, three of whom were ordered in for promotion, four for isconduct, and one transferred to another station. There are three sistants now on duty, and all are worked to their full capacity, and e commended by the observer for attention to duty.

In reference to the interest taken in the service the observer remarks follows in his semi-annual report for the period ending June 30, 73:

> It is unnecessary to say very much on this subject. The service speaks for itself. advancement and continued progress in the well-wishes of all our prominent busis men is a well-known fact. As a prominent member of the board of trade rerked: "Stop this service for one month and its necessity would become so apparent the public interests that any favor they might ask Congress would gladly grant." ny instances might be given where there have been large sums of money at stake, d difficult questions have arisen which have been solved by the signal-service. For nt of time I will mention but one. A vessel, with cargo fully insured in this city, e lost in a storm at sea, about half way between New York and New London, Conn., ne time in July, 1872. The owners claimed the insurance for the full amount, vessel d cargo. Some doubt seems to have arisen about the affair, and more especially as the wind and weather in that locality at the time the loss occurred. Mr. Steelman, retary of the vessel-owners' association, called at the observer's office for informan as to the state of weather, velocity and direction of wind at New York and New ndon at midnight of July 24, 1872. This happened at the time the reports were susnded, and no data could be furnished by this office. The observer addressed a comnication to the observers in New York and New London, and the reports, as received m those stations, were taken as evidence in court, and the case was decided in favor the insurance company, who proved that on the night in question there was only resh wind and clear weather at both of those stations, and it was very improbable a storm to have occurred at so short a distance from the land at that time. It was certained afterward that the vessel was scuttled and sunk purposely to get the large urance. This is but one of the many cases which might be cited.

PIKE'S PEAK, COLORADO.

[*Official Number*, 99.]

titude	38° 48′
ngitude	104° 59′
evation of summit above sea-level	14,216 feet.

Sergt. George Boehmer was ordered to this station July 21, 1 to make the necessary arrangements for its establishment. As se teen miles of telegraph-line had to be built, and the same amoun road made, to render the summit accessible before a shelter coul erected, considerable delay has necessarily occurred in getting read work. It is expected, however, that regular observations will be m from and after October 11, 1873. Four assistants are on duty, on whom is a sergeant, and who, with one other assistant, will remai the base to forward supplies to the party on the summit. An office been rented at Colorado Springs for the use of the lower party, w can be made available as a station, should observation be desired in future from this point.

PITTSBURGH, PENNSYLVANIA.

[*Official Number*, 41.]

Latitude	40
Longitude	80
Elevation of barometer above sea-level	791

The location of the office remains as at last report, and, being in business center of the city, and within easy reach of the telegrap fices, no change is recommended. Reports from twenty regular stat are received here, and also those from the special river-stations, w ever made. Four thousand one hundred and eighty-two regular, nine hundred and eighty-seven river, bulletins have been issued du the year, and one hundred and four press-reports furnished for pub tion. One thousand six hundred and thirty-six manifold copies of Synopsis and Probabilities have also been posted with the bulle The station has been supplied with the necessary apparatus for prin and issuing the midnight Synopsis and Probabilities to all post-of that can be reached by 3 o'clock in the afternoon of the same day. issue to offices begins November 1, 1873. The station was inspecte November, 1872, and instruments and records found in fair conditio

Sergt. William E. Smith was relieved at his own urgent req April 1, 1873, and succeeded by Sergeant J. B. Murray, who stil mains, and under whose charge the interest in the service has lar increased. Two assistants have been called in successively during year for promotion, both of whom went through the usual course o struction at Fort Whipple and passed a satisfactory examination. T assistants are now on duty, two of whom are printers, and all are fa ably mentioned by the observer as being attentive to duty.

River-observations are made and reported in the usual manner, gauge used being the same referred to in the last annual report as structed by the city authorities. This gauge measures the dept water in the channel. The greatest depth that can be measured by 35 feet, the least is 2 feet. When the water falls below 2 feet ano gauge is used. The lowest water-mark known is 9 inches in the chan the highest water has never reached the top of gauge.

The leading newspapers at the station publish all reports, and displayed a marked interest in the development of the service, e cially in connection with the river-reports. This part of the servic also warmly commended by the merchants and others engaged in river-trade.

PORTLAND, MAINE.

[*Official Number*, 12.]

titude	43° 40′
ngitude	70° 14′
evation of barometer above sea-level	52 feet.

No change has been made in the location of the office since last re-
rt, but one is ordered as soon as suitable arrangements can be made
r removal. This change is made in accordance with the recommenda-
on of the inspecting officer, who visited the station in September of
e present year.

No reports are received here, and therefore the only bulletins issued
e those of the local observations, of which one thousand nine hun-
ed and seventy-three copies have been furnished to the press. The
ading newspapers also print the monthly abstracts of the local weather
d the latest Probabilities received up to the hour of going topress.

Sergt. A. B. Williams remains in charge of the station, and has
ndered all reports properly and promptly. One assistant has been
dered in and promoted during the year, after passing the usual exam-
ation. Private Charles Dill, the present assistant, has given satisfac-
on by his intelligence and attention to duty. Several errors in the
anner of keeping the records were discovered by the inspector, and
rrected under his supervision. A general desire is expressed by the
tizens to have reports from other stations sent here as in previous
ars.

Thirty-six cautionary signals have been displayed during the year, of
hich twenty-five are reported as justified at the station. The observer
akes the following remarks in reference to several of the signals:

November 7, 1872.—Boats in the harbor that had prepared to sail remained in, as the
rm was quite violent at sea.

November 29–30, 1872.—The display of the signal was a benefit, as those vessels which
re prepared to sail remained inside the harbor; those that were out came in consid-
bly damaged and knocked to pieces.

December 9–10, 1872.—Quite a storm reported outside the harbor, doing considerable
mage.

December 26–27, 1872.—The signal was hoisted several hours before the storm, afford-
sufficient time to make preparations, and no vessels left the harbor.

January 5–6, 1873.—Signal hoisted four hours before the commencement of gale, giv-
timely warning for vessels to prepare and remain in.

January 23–25, 1873.—Not much damage sustained by vessels, on account of the
nely warning.

January 27–28, 1873.—From inquiry made, no vessels sustained injury in this port.

February 7–8, 1873.—No known damage sustained at this port.

March 15–17, 1873.—The gale broke the top off of the pole for the display of caution-
y signals.

March 29, *April* 1, 1873.—By timely warning not a vessel left the harbor for their
stination.

April 22–15, 1873.—Vessels all remained in the harbor; gale accompanied by heavy
ow.

May 3–4, 1873.—Vessels all put into the harbor and remained.

August 14–15, 1873.—Gale light from the northeast at this station, but a heavy swell
ming in from sea.

PORTLAND, OREGON.

[*Official Number*, 74.]

titude	45° 30′
ngitude	122° 27′ 30″
evation of barometer above sea-level	100 feet.

The office was moved December 21, 1872, to the building at the south-
est corner of Washington and Front streets, where it still remains.

All instruments are well exposed and the shelter is of the standard
tern.

Sergt. Edwin Garland was relieved for neglect of duty October
1872, and succeeded by Sergt. J. E. Evans, who still remains, and
given entire satisfaction by the promptness and regularity with wh
all reports have been forwarded.

Private Charles M. Brown was ordered to this station as assist
September 26, 1873, but has not yet reported his arrival. The stat
was inspected in October, 1872, and found in very bad condition,
the observer immediately relieved as before stated.

There being no reports received here, the only bulletins issued
those of the local observations, which are regularly furnished the pr
The telegraph-office is not kept open for the transmission of the m
night reports, which are therefore not forwarded until the morning
lowing. Three observations were lost during the year from the ca
stated in the following extract from the observer's journal for Augus
1873:

> About 4.15 a. m. a fire broke out near the office of observation, and on accoun
> its spreading so rapidly the 4.32 a. m. observation was neglected. At 7 a. m. I thou
> it advisable to prepare for the removal of instruments, &c., but by 11 a. m. the fire
> checked on Front street, near the office. At the commencement of the fire the w
> was very light, but, as the fire increased, the wind strengthened, backing from
> northwest to west. Instruments replaced in time to take the 7 p. m. and 9 p. m.
> servations.

PUNTA RASSA, FLORIDA.

[*Official Number*, 59.]

Latitude	27
Longitude	82
Elevation of barometer above sea-level	17

The location of the office at this station has been removed to a sn
building erected by the observer at a trifling cost to the Governmen

The station was inspected in January of the present year and fo
in as good condition as could be expected under the circumstan
Sergt. William Theodovius was transferred to Key West on acco
of a personal difficulty with the telegraph operators, and his place fi
by Sergt. M. J. Shanefelter from the latter station, who still rema
and has discharged his duties intelligently and well, all reports hav
been forwarded promptly and regularly.

Private Healy was transferred to the central office February 21, 1
and succeeded by Private E. K. Moore, who still remains, and has gi
satisfaction. No reports are received here.

ROCHESTER, NEW YORK.

[*Official Number*, 32.]

Latitude	43
Longitude	77
Elevation of barometer above sea-level	584

The office still remains in the eighth story of Powers' Block, at
corner of State and Maine streets, one of the best locations in the

Reports from fifty-five other stations are received here and publis
in the usual manner. During the year two thousand six hundred

ty-two manifold maps and five thousand and seventy-four bulletins e been issued, and eight hundred and fifty-nine press-reports furued for publication. One thousand two hundred and eighty-eight uifold copies of the Synopsis and Probabilities have also been posted h the bulletins.

he three daily newspapers printed at the station publish regularly latest Synopsis and Probabilities received, the Weekly Chronicle, ithly abstracts, tabulated press-reports, and also a daily local item ng a general summary of the weather at Rochester for the preceding nty-four hours. Great interest has been displayed by the newspaper os in the workings of the service.

'he station was inspected in March of the present year and found in ellent condition. Sergt. F. M. M. Beall remains in charge, and given entire satisfaction in his management. The inspector reports y favorably upon his zeal, attention to duty, promptness, and court- . He has recently commenced drawing the isobaric lines upon his uifold maps, and has been very accurate in his work in this and other pects. Private L. M. Crist was on duty as assistant until March 18, 3, when he was promoted and assigned to the Cleveland station. He succeeded by Private H. M. Wells, who still remains and is favor- y mentioned by the observer for steadiness and good conduct. Ser- nt Beall was permitted to leave the station for one month from Au- t 4, and during his absence Sergt. George Onslow was in charge, ing been sent from Fort Whipple for that purpose.

'wenty-four cautionary signals have been displayed during the year, which thirteen are reported as fully, and three as partly justified, at station. In reference to the results of these signals the observer arks as follows:

tober 16, 1872.—The storm was severe on the lake between 9 a. m. and 2 p. m. No el left port during "signal up," and none were observed out.

vember 7–8, 1872.—No vessel left port during the display. The wind attained a city of thirty-five miles an hour, and from its variable force was dangerous. Many ons have mentioned their appreciation and use of the warning. The daily papers he 8th instant make mention of its perfect reliability.

vember 25–26, 1872.—The highest wind of the season. No vessels are known to been out in the storm; navigation about closed.

vember 27–28, 1872.—The velocity of the wind reached thirty-eight miles per hour, was steady.

vember 29–*December* 1, 1872.—Signal hoisted thirty-five hours before the storm hed the station. The storm followed, with low temperature, and was the most gerous of the fall, the wind moving in fierce, sudden gusts, full of snow. The Erie al frozen up, and impassable to boats.

cember 1–4, 1872.—The wind was steady, at twenty-eight miles an hour. No ves- entered or left the harbor; navigation about closed.

cember 8–11, 1872.—The wind was very variable, accompanied by a light, fine, ing snow-storm.

cember 13–16, 1872.—This signal closes a successful season of display, and they are ended with a satisfactory increase of confidence in the ability of the service to e reliable storm-forecasts.

ay 1–3, 1873.—Am informed by builders, shippers, and others, that a warning for xtensive rain is of as great value to their interests as a display for dangerous ds—the signal was, therefore, justified, as a cold, driving rain followed.

ay 7–9, 1873.—It (the signal) had the usual effect of causing those whose business rests were affected by high winds and rain to prepare for the same. The commu- in general appear to have a settled and unquestioned dependence upon the signals

'he inspector reports that a general desire is expressed in Rochester ave the signals repeated at Charlotte, seven miles distant, and on e Ontario, at the mouth of the Genessee River. The attention of Chief Signal-Officer is respectfully invited to this subject.

SAN DIEGO, CALIFORNIA.

[*Official Number*, 75.]

Latitude	32° 44
Longitude	117° 08
Elevation of barometer above sea-level	62

No change has been made in the location of the office at this sta since the date of last report.

No reports are received here from other stations, and the only b tins issued are those of the local observations, which are furni regularly to the local newspapers and printed in excellent shape.

The station was inspected in October, 1872, and found in very condition.

Sergt. John B. Wells remains in charge, and all his mail re have been forwarded with commendable promptness and neatness.

The telegraph office is closed at the regular hour for sending the night reports, and they are not forwarded until the morning of the day.

There is no assistant on duty at this station.

SAN FRANCISCO, CALIFORNIA.

[*Official Number*, 29.]

Latitude	38° 47
Longitude	122° 26
Elevation of barometer above sea-level	60

The office at this station still remains in the Merchants' Excha Reports are received irregularly from nine other stations, and du the year one thousand four hundred and seventy bulletins have issued.

Sergt. W. B. Webster remains in charge, and has forwarded reports promptly and satisfactorily. He has displayed marked and enterprise in collecting and copying, for the use of the central o the meteorological information contained in the logs of the vessel riving at San Francisco from foreign ports. It is to be hoped that o observers at sea-port stations will follow his example. Private Ge Onslow was ordered in for promotion April 10, 1873, and after g through the usual course of instruction at Fort Whipple passed examination, and is now in charge of a station.

Private James Higgins was transferred from another branch of service to signal duty March 14, and placed on duty as assistant at station, where he still remains. His conduct has not been of a na to make such transfers in the future desirable. The station was spected in October, 1872, and found in good condition. The insp states that the service does not appear to be widely known, but is appreciated by those who have studied its workings. The daily P abilities are not received on the Pacific coast.

SANTA FÉ, NEW MEXICO.

[*Official Number*, 69.]

Latitude	35°
Longitude	106°
Elevation of barometer above sea-level	6,862.2

The location of this office was removed June 28, 1873, to the Sen ilding, where it still remains, the change having been necessary to ure a better exposure for the different instruments.

'he station was inspected in November, 1872, and found in fair con- ion. Sergt. John P. Clum remains in charge, and has forwarded his orts with moderate promptness.

Ie was absent for a month during the year, with permission, and the tion was worked by an instructed civilian assistant. The telegraphic nmunication is very unreliable, and reports are consequently received egularly. There is no regular assistant at this station, nor is any re- ired, as no reports are received.

SAVANNAH, GEORGIA.

[*Official Number*, 22.]

itude	32° 05′
gitude	81° 08′
vation of barometer above sea-level	71 feet.

No change has been made in the location of the office since the date the last annual report.

'he only reports received here are those from the West Indies and rida stations, and are furnished regularly with the local observa- ns for publication.

'he station was inspected in February of the present year, and the truments and records found in good condition.

'he office itself needed some repairs, which have since been made.

Sergt. J. O. Manson is still in charge, and has given entire satisfac- n.

All reports have been made promptly and properly by mail, and those telegraph as regularly as the telegraphic facilities would permit.

Private McGillivray was ordered in for promotion June 3, and passed e required examination satisfactorily. He was succeeded by Private rmann Frey, who is still on duty, and is favorably mentioned by the server.

Twelve cautionary signals have been displayed during the year, of ich four are reported as fully and two partly justified at the station. reference to these signals the observer remarks:

ctober 23–24, 1872.—The wind blew steadily most of the day of the 23d, with some ts in the afternoon. Several vessels were detained by the signal. From informa- n received it appears that a severe gale was experienced along the immediate coast.

farch 23–25, 1873.—The success that the department has attained as to accuracy in playing cautionary signals begins to inspire in the breast of the mariner in port pect for the science which, on many an occasion during the last year, has indirectly ed numbers of vessels from destruction.

farch 25–26, 1873.—No vessels left port during the display of this and the previous nal.

pril 1–2, 1873.—The wind attained a velocity of thirty-six miles an hour. No injury ulted. Many persons doubted the verification of this signal, as the weather was very asant and clear at the time of hoisting.

eptember 19–20, 1873.—The wind reached a velocity of forty-eight miles an hour, with outheast direction until 8 p. m. of the 19th, when it changed to west and then to thwest. No vessels left port during the day, and much uneasiness was felt by ties in vessels that left before the display of the signal was made.

SHREVEPORT, LOUISIANA.

[*Official Number*, 72.]

itude	32° 30′
ngitude	93° 45′
vation of barometer above sea-level	228.5 feet.

No change has been made in the location of the office since the of last report. No reports are received here and no bulletins iss except those of the local observations, which have been regularly nished the press.

The station was inspected in March of the present year, and foun excellent condition.

Sergt. Hugh Coyle was in charge until his death from yellow fe September 28, 1873, since which date the work has been done by Pri John G. Lynch. Sergeant Coyle was one of the most faithful me the service, and an earnest and conscientious worker. All his rep were forwarded promptly, and in perfect order. Two assistants h been called in successively for promotion during the year, one of wh is now reviewing his course of instructions, and the other has been lieved from duty in this division of the service for misconduct. Pri Lynch, the present assistant, has discharged his duties intelligently well, and is now in sole charge of the station.

River-observations are made and reported here in the usual man the gauge used being one constructed by the observer, under the di tion of this office.

The reference point in reporting depth of river is in the bed of ri and 40 feet below high water of 1849, and 25 feet above bottom of ri From bottom of river to high-water mark of 1849 is 65 feet.

Considerable interest is taken in the service here, especially in part of it connected with the river-reports.

SAINT LOUIS, MISSOURI.

[*Official Number*, 66.]

Latitude	38° 37
Longitude	90° 15
Elevation of barometer above sea-level	543.54

The office was removed March 1, 1873, to the building of the S Louis Mutual Life Insurance Company, at the corner of Sixth Locusts streets, where it now remains.

The officers of the insurance company and the members of the Ch ber of Commerce have contributed liberally to the equipment of station, and are entitled to the thanks of the office for their act The present office is reported to be more convenient and better equip than that of any other station. Reports from twenty-nine other stat are received here in the morning, with more or less regularity. In afternoon the same reports are received, with the addition of those f all the special river-stations, and at midnight the number of reg reports is increased to seventy-six, from which a map is prepa printed in time for distribution by daylight each morning, includ Sunday.

During the year, fifty-three thousand one hundred and eighty m sixteen thousand six hundred and eighty-six regular, and six thous and thirty-eight river bulletins have been issued, and three thous and ninety-four press-reports furnished for publication. The stat was made one of the centers of distribution for the printed Synopsis Probabilities to post-offices, and on September 1, 1873, the issue commenced to four hundred and fifty-five offices, two copies being nished to each. The station was inspected in June of the present y and the instruments, records, and office found in excellent conditio

Sergt. E. H. Singleton remains in charge, although it is prop transfer him to a larger field of duty at an early date. He has dis- yed unusual intelligence and ability in the manner in which he has scharged his duties and extended the usefulness of the service at this tion, and he is commended to the especial attention of the Chief Sig- l-Officer. The inspector refers to him in the following strong terms approval:

> have inspected every important station in the country, excepting Cincinnati, and sider the Saint Louis office the best managed of any, and that the interests of the vice have been advanced more by the work of this station than of any other single .

Four assistants have been relieved from duty at this station during e year for misconduct, two transferred to other stations, and one led in for promotion, who subsequently passed the required exami- tion. Seven assistants are now on duty, of whom one is a sergeant, . O. Bailey,) sent to relieve the observer of a portion of his responsi- ity. All these men are worked to their full capacity, as the record work shows, and all are favorably mentioned for general good con- ct.

Through the agency of Sergeant Singleton, the police force of the city s been enlisted in the meterological service to the extent of making ily reports on forms furnished from the central office, and which have en proved of value in working up the local meteorology of the station. e chief of police has shown a commendable degree of public spirit in lering this work done.

Arrangements have been made also by the observer for a wide distri- tion of the reports through the agency of the several railroad lines ding into Saint Louis, the nature of which is fully explained in the lowing statement of the observer:

> t the last session of the State Board of Agriculture, held in this city, your observer s invited by that body to appear before them and explain in what manner the re- ts could be best utilized. With this request I complied, and I also suggested means ereby the farmers of Missouri and surrounding States could be put in possession of ormation sent daily from Washington, which would be of great value to them; the n being simply to interest the railroad management in the matter, and to induce m to transmit the daily weather-reports over the wires gratis. From want of per and concerted action upon the part of the various agricultural associations, the tter was left in abeyance until April last, when your observer, after consulting with eral prominent railroad officials, determined to address a letter to the respective road presidents, briefly pointing out the advantages to be derived by furnishing ir employés information as to the probable state of the weather. This letter met the robation of the gentlemen addressed, and its provisions were immediately carried effect, the operators at all telegraph stations being instructed to post a copy of the patch sent them in a conspicuous place in their office, and at large stations, where ers are published, duplicate copies were to be made on forms furnished by this ce, that those papers might avail themselves of them. In addition to this work, the gage-masters of morning trains were ordered to leave at each station, upon arrival, vious to 5 p. m., one of the daily weather-maps.
>
> he Saint Louis, Rockford and Rock Island Railroad was the first to put this plan operation; the action of this road was quickly followed by the Saint Louis, Vanda- and Indianapolis, the Cairo Short Line, the Saint Louis, Kansas City and Northern, Chicago and Alton, the Saint Louis and Iron Mountain, and the Saint Louis and theastern; and thus the reports are distributed over a very large extent of country.

The press of this station has shown a marked degree of interest in the velopment of the service, and have published full reports in fine shape, d assisted the observer in many ways.

Mr. George H. Plant, chairman of the meteorological committee of e Chamber of Commerce, has also manifested a lively interest in the rvice.

River-observations are made here, and reported in the usual manner, d are received with great favor by the parties engaged in the river- ade.

SAINT PAUL, MINNESOTA.

[*Official Number*, 39.]

Latitude	44° 53′
Longitude	93° 05′
Elevation of barometer above sea-level	794.53 feet.

The office still remains at the corner of Third and Market streets, and is favorably located. Reports from six northwestern stations are received here for transfer to Milwaukee and for local publication. The reports from all the principal river-stations are also sent here during the seasons of high and low water in the Mississippi, and of these five hundred and twenty-nine bulletins have been issued.

The local observations have been furnished to the press regularly and are published, together with the latest Probabilities received. The station was inspected in May of the present year and found in very bad condition, and the immediate relief of both observer and assistant was found necessary.

Sergt. C. W. Held was relieved for neglect of duty, May 15, 1873, and subsequently reduced to the ranks upon the recommendation of the inspector. He was succeeded by Sergt. H. E. Cole, who still remains, and has given entire satisfaction by the promptness and regularity with which he has forwarded all reports and the very neat manner in which they are made out. Two assistants have been relieved in succession during the year, one of whom deserted before reaching Fort Whipple.

Private James A. Barwick, the present assistant, has been on duty here since July 17, 1873, and been faithful and attentive.

Regular river observations are made and reported daily in the usual manner. The bench-mark is at the pier of the bridge, and is marked at extreme low water of 1864. The daily report of river is the depth of water above that mark. The depth of water in the channel at extreme low water is 1 foot 11 inches. There is no reliable high-water mark.

ISLAND OF SAINT PAUL'S, ALEUTIAN ISLANDS.

Latitude	57° 02′
Longitude	170° 00′
Elevation of barometer above sea-level	Unknown.

Reports have been received from the observer at this station for the period from June 5, 1872, to May 31, 1873, as shown in the special report already submitted. Private Charles P. Fish remains on duty, and his reports show that he has carried out his instructions in an intelligent and faithful manner.

SPRINGFIELD, MASSACHUSETTS.

This is not a reporting station, but was established July 19, 1873, for the distribution of printed copies of the midnight Synopsis and Probabilities to such post-offices as could be reached daily by 3 o'clock p. m. Private John G. Murray has worked the station alone, and given full satisfaction. He began work on the 28th of July, and supplies seventy-one offices daily. The office is in the Republican building, and in every way a desirable one.

TOLEDO, OHIO.

[*Official Number*, 35.]

Latitude	41° 40′
Longitude	83° 32′
Elevation of barometer above sea-level	649.5 feet.

The office is located in the fifth story of the chamber of commerce lding, at the corner of Madison and Summit streets, in the business ter of the city, within convenient reach of the telegraph-offices and various public buildings. An excellent exposure is afforded by the f for the several instruments and the display of cautionary signals. e instrument-shelter is of the standard pattern, and projects from vindow on the northeastern side of the building. The location of s shelter is not a good one, but is the best attainable at present. ports from fifty-five stations are received here and published in the ial manner. During the year two thousand and ninety-eight manifold ps and three thousand seven hundred and six bulletins have been ied, and one hundred and fifty-five reports furnished to the press. In lition to this, nine hundred and eighty-two manifold copies of the iopsis and Probabilities have been posted with the bulletins.

The station has been twice inspected during the year—once in Octo-, 1872, and again in March of the present year. It was found in condition at both inspections. Sergt. A. C. Ford was relieved iuary 2, 1873, and transferred to the Chicago station, and was sucded by Sergeant J. E. Cook, who still remains in charge and has warded all reports promptly and properly. The inspector commends for his zeal and general good conduct. The record of work done, en above, shows that he has displayed a commendable energy in ting his reports before the public. Two assistants have been called uccessively for promotion, and both have passed the required examiion.

Private William McElroy is the present assistant, and has been on y in that capacity since April 14. The observer speaks in warm ms of his attention to duty and capacity. The leading newspapers lish the tabulated reports from a selected number of stations, the nthly abstracts of local weather and latest probabilities received. ively interest is manifested in the service among the citizens, and office is visited daily by parties in search of meteorological informa. Twenty-seven cautionary signals have been displayed during the r, of which seventeen are reported as justified at the station.

The observer remarks, in reference to these displays, as follows:

ctober 29–31, 1872.—Several persons made application for information, and a number essels detained in the harbor on account of the signal.

ovember 13–14, 1873.—Several vessels remained in port, and the masters of them le inquiries at the office, and expressed their entire satisfaction at the result of the ning.

ay 6–9, 1873.—The schooner Minnie Powell left port on the morning of the 6th, sprung a leak soon after getting into the lake, and was towed back some distance sank. Amount of damage unknown.

VICKSBURGH, MISSISSIPPI.

[*Official Number*, 61.]

itude	32° 23′
gitude	90° 54′
vation of barometer above sea-level	280 feet.

The office was removed October 1, 1872, to the third story of the lding at the corner of Washington and Crawford streets. It is in business center of the city, and in every respect well located. The trument-shelter is of the standard pattern, and projects from a winv with a northern exposure. The only reports received here are se from the principal river-stations in the afternoon. One thousand hundred and eleven bulletins containing these reports have been ied during the year, and the local observations are furnished to the press whenever they will be published. But little interest is felt h in the service, except in connection with the river-reports, which received with great favor.

The station was inspected in March of the present year, and the off instruments, and records found in excellent condition.

Sergt. John Dascomb has been in charge of the station since Octo 4, 1872, on which date he was transferred here from Du Luth. His m reports are promptly and properly rendered. Two assistants have b called in, successively, for promotion, and passed the required exami tion, after the usual instruction at Fort Whipple. One assista Private A. B. Hiltman, was ordered in for misconduct, June 16, succeeded by Private C. L. Josselyn, who still remains and has gi satisfaction.

River observations are made regularly and reported in the us manner, the gauge used being the one constructed by the United Sta Engineer Corps, to which reference was made in the last annual rep

The midnight reports are not forwarded until the telegraph-of opens for business the next day, and as this is some time after the ular time of taking the morning observation, both reports are delay Until better telegraphic arrangements can be made, additional repo cannot be sent to the station with sufficient promptness to make th useful.

VIRGINIA CITY, MONTANA.

[*Official Number*, 77.]

Latitude	45
Longitude	112
Elevation of barometer above sea-level	5510

The office was removed on the 1st of July, 1873, but as the stat has not been inspected since the change of office, no detailed acco of its location or of the instruments can be given.

The latter are reported in good condition by the observer.

No reports are received here, and therefore no bulletins are issued

Sergt. A. B. Knight was relieved for gross neglect of duty May 1873, and reduced to the ranks. He was sueceeded by Sergt. F. Wash, who also failed in his duty, and was relieved September 26 which date Sergt. J. B. Campbell was ordered to the station. This tion is the only one at which the work has been systematically neglec by its observers.

WASHINGTON, DISTRICT OF COLUMBIA.

[*Official Number*, 19.]

Latitude	38
Longitude	77
Elevation of barometer above sea-level	105.56

The office remains as last year in the third story of the double bu ing occupied by the Chief Signal Officer, at 1719 and 1721 G str and the station, instruments, and records are in good condition. Se Theodore Smith has been in immediate charge during the year, and ability with which his duties have been performed has received tang recognition from the honorable Secretary of War in an appointmen second lieutenant in the United States Army. Sergeant Smith also had direct charge of the comparison, correction, and preser tion of all records and reports received from repeating-stations, and got them conveniently arranged for reference whenever needed.

eants T. B. Jennings and E. B. Robbins have had charge of the first id second night-reliefs, respectively, and have been faithful and conant in their attention to duty.

Sergt. J. B. Newlin continues in charge of the correspondence, and has so taken charge of the station in the occasional absence of Sergeant nith. He has been prompt and regular in attendance, and performed l duties assigned him satisfactorily.

Sergt. P. F. Nagle remains in charge of the lithographic rooms, and ergt. H. C. Hirst of the printing-room. Both men have been zealous id constant in the performance of their duties, and have brought the ork in their respective rooms to a high state of perfection. All the en now employed as assistants in the several rooms under my charge ve satisfaction, and very few instances of misconduct or of neglect of ity have occurred during the year.

Reports from all stations are received here, and three maps are issued ily, being one for each of the tri-daily reports. One hundred and irty-two thousand six hundred and eighty-two maps and sixteen thound nine hundred and nineteen bulletins have been issued during the ear, and one thousand one hundred and fifty-five press-reports furnished r publication. The issue of printed copies of the midnight "Synopsis id Probabilities" to one hundred and forty-six post-offices was comenced January 4, 1873, since which date seventy-five thousand five indred and twenty-three copies have been distributed. In addition these publications, nine thousand four hundred and two copies of the 'eekly Chronicle and six thousand seven hundred and ninety-six copies the Monthly Weather Review have been printed and distributed.

WILMINGTON, NORTH CAROLINA.

[*Official Number*, 20.]

ıtitude	34° 11′
ngitude	78° 10′
evation of barometer above sea-level	30.7 feet.

No change has been made in the location of the office since the date last report. No reports are received here from other stations, and e only bulletins issued are those of the local observations, which are rnished regularly to the daily newspapers, and printed with the latest obabilities received.

The station has not been inspected since July, 1872, but the observer ports the records and instruments in good condition. Sergt. Robert yboth was transferred to the central office April 10, 1873, and suceded by Sergt. Otto Schutze, who is now in charge, and has rendered l reports promptly and in excellent form.

Two assistants have been relieved during the year for misconduct, and ie called in for promotion, who passed the usual examination. The esent assistant is J. C. Senger, who has been on duty since August , 1873, and given satisfaction.

Twenty cautionary signals have been displayed here during the year, which thirteen are reported as fully, and four as partly, justified at ie station. The observer makes the following remarks in reference to iese displays:

October 23–25, 1872.—The gale having been signaled sixteen hours in advance, the ipping in port were prepared for it, consequently no damage was done.

November 29–30, 1872.—No damage or injury reported.

February 27–28, 1873.—No injury to vessels reported.

March 2–4, 1873.—No vessels left port during the display, although several intended to do so on Sunday and Monday. An unusually severe storm is reported to hav vailed on Sunday afternoon on the North Carolina coast.

March 19–21, 1873.—No vessel left port during the display of signal, and no da is reported.

March 23–27, 1873.—No damage done to the shipping in port, and no vessel le harbor during the display of the signal.

March 28–30, 1873.—Three large foreign vessels were about to sail on Friday n but remained in port on account of the cautionary signal. No damage done in p

April 9–10, 1873.—A Norwegian brig and the schooner John went to sea befor signal was hoisted; both vessels, becoming unmanagable before they were out o channel, collided heavily and were badly damaged.

September 19–20, 1873.—The signal was heeded by mariners, merchants, and the lic. One of the most violent storms known for a number of years prevailed here 1.30 a. m. to 5 a. m. of the 20th, the wind attaining a velocity of forty-eight mil hour. Trees were torn up by the roots, chimneys and fences blown down, and trees that heretofore had battled successfully with rude Boreas were compelled t in obedience to his mighty power. North of the city the storm was even more se destroying barns and out-houses, killing and crippling numbers of cattle, th coming down in torrents all the while.

WOOD'S HOLE, MASSACHUSETTS.

[*Official Number*, 60.]

Latitude	41
Longitude	70
Elevation of barometer above sea-level	25

This station was opened December 4, 1872, by Sergt. J. K. P. Purd who remains in charge. All the regular observations are made daily none are forwarded by telegraph, except when the instrumental ind tions are unusually threatening.

The principal object of the station is the display of cautionary sig of which sixteen have been ordered during the year, and eleven of t reported as justified at the station.

The observer remarks, in reference to the verification of these sig as follows:

March 8, 1873.—No damage, as far as heard from. At 11.26 p. m., the wind velocity of thirty-five miles per hour.

March 11–12, 1873.—The signal caused some vessels to stay in harbor—one ca said he would have lost his vessel had he made sail.

March 20–23, 1873.—The signal prevented several vessels from leaving port, and they escaped the gale. The captain of the steamer Island Home won't leave port the signal is hoisted. No damage reported.

March 24–28, 1873.—Several vessels anchored in the harbor, and escaped the gal

April 16–18, 1873.—One vessel wrecked on Broad Shoal, four and a half miles Nobsque light-house; all the crew saved.

May 2–5, 1873.—The Island Home did not leave port, and escaped the gale.

May 8–9, 1873.—No damage reported. Several vessels anchored in the harbor d the gale.

August 13–15, 1873.—No damage at this place. The steamer New Bedford took ing, and did not run her trips; also the steamer Island Home.

The office is on Water street, and well located, in a meteorolog point of view. The instrument shelter, which is of the standard patt projects in the usual manner from a window facing the north.

The anemometer, wind-vane, and rain-gauge are placed on a platf built on the roof of a shed connected with the house in which the o is located, and are well exposed.

The fishermen of the place are of the opinion that it is one of the m important points on the coast for the display of signals, as it is not usual for from 200 to 300 vessels to seek shelter in the harbor in of storms.

The station was inspected in January of the present year, and fo in a fair condition; but all errors were corrected under the supervision of the inspector.

The observer has forwarded all his mail reports promptly and in a satisfactory shape.

WYTHEVILLE, VIRGINIA.

[*Official Number*, 91.]

Latitude	36° 58′
Longitude	81° 05′
Elevation of barometer above sea-level	2294.8 feet.

This station was occupied January 16, 1873, by Sergt. F. Z. Gosewisch, who still remains in charge and has given entire satisfaction by the prompt and neat manner with which all reports have been forwarded.

The office is well located over the store of Messrs. Crush & Snow, and the roof exposure of the instruments is good. The station has not been inspected, and the details of the position of the several instruments is unknown. Their condition is reported as good by the observer. No reports are received here and none sent by telegraph, the station being one of observation alone. The local observations are regularly furnished to the press.

YANKTON, DAKOTA.

[*Official Number*, 95.]

Latitude	42° 50′
Longitude	96° 44′
Elevation of barometer above sea-level	1296 feet.

An observer was ordered to this station March 11, 1873, and he began sending regular telegraphic reports April 1, 1873. The office was at first located some distance from the town in a building belonging to Mr. Clevenger, and fitted up for the purpose by that gentleman, but as the wire by which it was connected with the main telegraph-office did not work satisfactorily, the observer moved, July 3, to a room on the third floor of the St. Charles Hotel, at the corner of Capitol and Third streets, where it is eligibly located and convenient of access to the principal public buildings and to the river. The roof exposure of the instruments is excellent. The instrument-shelter projects in the usual manner from one of the office windows, facing west, as a northern front could not be obtained.

No reports are received here, and consequently no bulletins issued, except those of the local observations, which, with the monthly abstracts, are regularly furnished the Weekly Press, and published in good form.

The station was inspected in July of the present year, and found in good condition. Several irregularities in the manner of keeping the records were discovered, and corrected under the supervision of the inspector. Sergt. N. Phelps has been in charge of the station since its establishment, with the exception of one month, when he was absent with permission, and his place filled by Sergt. George Onslow. All mail reports have been forwarded promptly and in proper form. River observations are made and reported in the usual manner each afternoon. The gauge used is one constructed by the observer, and although roughly made, is accurately graduated. The bed of river is the zero point of the gauge, and the actual depth of water in the channel is therefore reported.

In reference to the interest taken in the service the inspecting officer remarks as follows:

> I learn from most reliable sources, Governor Burbank, Colonel Foster, A. Q. M., and other gentlemen, that a misapprehension existed among the citizens and others as to the scope of the observer's duties at this point. They supposed that he was to foretell storms, and when the exceedingly severe storm of April 13 came upon them without warning, driving from their camp into private houses the men of the Seventh Cavalry there was a great feeling of bitterness toward the observer by the enlisted men of that organization, and they threatened violence to him within hearing of citizens. The observer was then located in the suburbs, and did not visit town, and so had no personal threats. The misunderstanding as to his duties has been removed, yet the citizens retain their interest in the service.

SPECIAL RIVER-STATIONS.

Since the date of the last annual report nineteen stations have been selected on the principal western rivers and their tributaries, at which regular river observations are made and reported to this office by telegraph. These stations are independent of those occupied by enlisted men of the signal-service, and the observations are limited to the rise and fall of the rivers in which they are located, the state of the weather, and the direction of wind at the time of report. Each station is in charge of some well-known citizen, who takes sufficient interest in the service to make the observations regularly and correctly, and the general result of the past year's experience has been satisfactory in demonstrating both the practicability and the usefulness of the work. The reports are sent over all the river circuits, and dropped at each of the regular stations on the principal rivers. The following table shows the names of the several stations, the rivers upon which they are located, the name of the observer, and the date at which each began reporting:

	Stations.	Rivers.	Names.	Commenced reporting.
1	Freeport, Pa	Alleghany	David Alter	April 17, 1873
2	Hermann, Mo	Missouri	Edward Kehr	April 24, 1873
3	Jefferson City, Mo	do	Louis C. Lohman	May 12, 1873
4	Oil City, Pa	Alleghany	J. D. Thompson	April 20, 1873
5	Brownsville, Pa	Monongahela	J. Allen Hubbs	June 6, 1873
6	Evansville, Ind	Ohio	A. C. Pushee	April 21, 1873
7	Confluence, Pa	Youghiogheny	M. Tannehill	April 23, 1873
8	New Geneva, Pa	Monongahela	H. T. Davenport	April 24, 1873
9	Lexington, Mo	Missouri	Z. S. Mitchell	April 28, 1873
10	Kansas City, Mo	do	H. A. M. Vaughan	April 21, 1873
11	Brunswick, Mo	do	G. D. Kennedy	May 1, 1873
12	Little Rock, Ark	Arkansas	C. H. Conradt	April 21, 1873
13	Plattsmouth, Nebr	Missouri	A. L. Child, M. D	April 20, 1873
14	Marietta, Ohio	Ohio	J. H. Best	April 19, 1873
15	Saint Joseph, Missouri	Missouri	A. L. Kerr	May 8, 1873
16	Warsaw, Ill	Mississippi	D. H. Cox	May 7, 1873
17	Paducah, Ky	Ohio	Capt. C. Bachman	May 1, 1873
18	Booneville, Mo	Missouri	W. H. Young	April 28, 1873
19	Le Claire, Iowa	Mississippi	J. P. Disney	June 2, 1873

From July 1 to the present date, only one report per week from each station has been received by telegraph; but the observations have been kept up regularly at all of them, and reported weekly by mail on the established form adopted by the office. The regular daily telegraphic reports will be resumed October 1 and continue until the close of navigation renders them unnecessary. The instructions issued to these special stations, with the cipher in which the reports are transmitted, and the location of the "bench-marks" at all the river-stations, both regular and special, have been previously submitted to you and approved. Other instructions will be issued from time to time, as occasion requires.

WEST INDIA ISLANDS.

HAVANA, CUBA.

[*Official Number*, 100.]

atitude	23° 9′ 24″
ongitude	82° 22′
levation of barometer above sea-level	21.66 feet.

Observations were commenced at this station June 22, by Mr. Charles asselbrink, and forwarded weekly by mail on the regular form until ugust 6, 1873, when the transmission of the morning and afternoon eports by telegraph began, and has been continued with as much regarity as the telegraphic facilities would permit. The midnight reports nnot be sent under the present arrangements, as the telegraph-office oses in the afternoon.

The observation office is at No. 63 Neptune street, and is believed to well located.

KINGSTON, JAMAICA.

[*Official Number*, 4.]

titude	17° 58′
ngitude	76° 47′ 30″
evation of barometer above sea-level	unknown.

Observations are taken by Mr. James Gall, who began reporting by legraph September 18, 1873, and has sent two reports daily since that te, with as much regularity as the telegraphic facilities will permit.

The midnight report cannot be sent from this station at present, as e telegraph-office closes in the afternoon.

The office is at "Myrtle Bank," and Mr. Gall has taken all necessary eps to make his station useful and his reports accurate.

SANTIAGO DE CUBA.

[*Official Number*, 3.]

titude	20° 00′
ngitude	76° 00′
evation of barometer above sea-level	unknown.

The first report from this station was received September 29, 1873, d was not a full one, as the authorities would not permit the use of pher. As their action appears to be based upon a misunderstanding the purpose for which the cipher is used, application has been made have the restriction removed, and the agent reports that it will prob- bly prove successful. Until this is done reports will not have the same lue as those from other stations, as they are limited to the usual ten ords.

CANADIAN STATIONS.

Regular telegraphic reports are now received from eleven stations in e Dominion of Canada and other British provinces. Their names and osition are given below :

TORONTO, ONTARIO.

[*Official Number*, 58.]

Latitude	43° 39′ 2
Longitude	79° 21′
Elevation of barometer above sea-level	342 fe

Reports have been received regularly during the whole year v
Buffalo.

MONTREAL, QUEBEC.

[*Official Number*, 56.]

Latitude	45°
Longitude	73°
Elevation of barometer above sea-level	

Observations are made and reported regularly by Professor Charl
Smallwood, director of the Montreal Observatory, one of the oldest a
most experienced observers in the Dominion.

QUEBEC, QUEBEC.

[*Official Number*, 57.]

Latitude	46° 29′
Longitude	71° 13′
Elevation of barometer above sea-level	336 fe

Reports have been received regularly via Buffalo.

KINGSTON, ONTARIO.

[*Official Number*, 80.]

Latitude	44°
Longitude	75°
Elevation of barometer above sea-level	326.7 fe

Reports have been received regularly via Buffalo.

PORT STANLEY, ONTARIO.

[*Official Number*, 78.]

Latitude	42°
Longitude	81°
Elevation of barometer above sea-level	584 fe

Reports have been regularly received via Buffalo.

PORT DOVER, ONTARIO.

[*Official Number*, 79.]

Latitude	42°
Longitude	80°
Elevation of barometer above sea-level	619 fe

Reports have been received regularly via Buffalo.

SAUGEEN, ONTARIO.

[*Official Number*, 81.]

Latitude	42°
Longitude	81°
Elevation of barometer above sea-level	597 fe

Reports have been received regularly via Buffalo.

FORT GARRY, MANITOBA.

[*Official Number*, 88.]

Latitude	49° 52′
Longitude	96° 58′
Elevation of barometer above sea-level	654 feet.

Reports began January 1, 1873, and have been regularly received via Saint Paul, Minn.

HALIFAX, NOVA SCOTIA.

[*Official Number*, 89.]

Latitude	44° 39′ 42″
Longitude	63° 35′ 30″
Elevation of barometer above sea-level	

Began reporting regularly December 9, 1872, and received via Buffalo.

CHATHAM, NEW BRUNSWICK.

[*Official Number*, 2.]

Latitude	47° 01′
Longitude	65° 30′
Elevation of barometer above sea-level	

Began reporting September 23, 1873, and received via Buffalo.

CAPE ROZIER, QUEBEC.

[*Official Number*, 1.]

Latitude	48° 56′
Longitude	64° 21′
Elevation of barometer above sea-level	

Began reporting September 27, 1873, and received via Buffalo.

The reports from all these stations, except Fort Garry, are collected at Toronto by Prof. G. T. Kingston, the chief of the Dominion meteorological bureau, and forwarded by him in a consolidated form. The same cipher is used as for those made at the regular stations in the United States, and weekly transcripts of the observations are forwarded regularly by mail on forms prepared by Professor Kingston. The numbers given the several stations are for the convenience of our own observers in reporting them on Form 19.

RECAPITULATION.

Number of sergeants on station at this date	88
Number of assistants on station at this date	93
Number of deaths during the year	5
Number of desertions during the year	5

Of the deaths, three were accidental and two from yellow fever.

Total number of maps issued during year	320,770
Total number of regular bulletins issued during year	143,097
Total number of river-bulletins issued during year	23,210
Total number of press-reports issued during year	23,224
Total number of post-office bulletins issued during year	895,014

Paper 13 is a table of condensed meteorological statistics reported from these stations. The report from the observer on the island of Saint Paul, in the Aleutian group, presents some points of peculiar interest, and is given separately in Paper 14.

There are seventy-eight stations now established in the United Sta
and in regular operation, being an increase of thirteen during the ye
The plan on which these have been designated was minutely describ
in the last annual report.

For the exact study of the phenomena of the upper portions of t
atmosphere, and to determine more accurately the proper reductions
be made for great elevations, temporary stations have been establish
at favorable points. In addition to the regular station on the sumn
of Mount Washington, New Hampshire, three others, one at the ba
and two dividing the interval between the base and the summit, were
operation between June 1 and July 31, (Paper 15.) The summit of Mou
Mitchell, North Carolina, was occupied as a station during the months
June, July, and August, and the base of that mountain was also oc
pied during August, (Paper 16.) For similar reasons the difficult ta
of establishing a permanent telegraphic station on the summit of Pik
Peak, Colorado, at an elevation of 14,216 feet, has been accomplished, a
the station is now in operation. A telegraphic line seventeen miles
length has been built to connect the summit with Colorado Springs, a
a road has been made by which it is easily accessible. A substant
building has been erected on the crest of the peak. By the care of t
honorable the Secretary of War proper steps have been taken to decla
a portion of the mountain to be a Government reservation.

Material aid has been contributed to the establishment of this stati
by citizens of Colorado Springs, and by the officers of the Denver a
Rio Grande Railroad Company. Mr. Matt. France, of Colorado Sprin
and Mr. B. F. Woodward, of Denver, are entitled to special thanks
their exertions. It is in contemplation to take observations from t
base of the mountain, as well as the summit, during a period sufficie
for useful comparisons. The discussion of these observations will
entered upon as soon as is practicable.

The system of thorough inspection of each station by officers specia
instructed for the purpose, alluded to in the last annual report, has be
continued, experience showing it to be indispensable. First Lie
Charles S. Smith, Fourth United States Artillery, acting signal-offic
continued on that duty from October last until April 5, subsequen
being relieved from detail with this office. First Lieut. A. W. Gree
Fifth United States Cavalry, acting signal-officer, has been during t
whole year engaged in inspection duty, to the manifest benefit of t
service. Paper 17 shows the dates at which sixty-four separate s
tions have been inspected and by whom.

The reports now received by comity of exchange with the Dominion
Canada are from eleven stations, four having been added during t
year. Return reports are telegraphed to Prof. G. T. Kingston, of T
ronto, chief of the meteorological bureau of the Dominion, at his
quest. Separate reports have also been received from Prof. Char
Smallwood, director of the Montreal Observatory. Warnings are giv
to the meteorological bureau of the Dominion whenever the conditio
known at this office are such as to indicate unusually dangerous weath
on the lower lakes or eastern provincial coasts, in a manner and by
special arrangement of cipher agreed upon. The immediate value
this international system to both countries is now frequently show
while its future good results, political and practical, will increase
time, and with the more thorough interchange which will follow the
tension of both services.

After much delay arrangements have been completed by which t
egraphic reports, regarded as essential for meteoric indications,

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now receives its stated reports is ninety-two, of which seventy-eight are the regular stations in the United States, eleven belong to the Canadian system, and three to that commenced for the West Indies.

Applications have been received for the establishment of one hundred and forty-nine stations, which, with the present appropriations, cannot be supplied. Paper 25 exhibits a list of these stations.

The number of observer-sergeants on duty at this date is eighty-eight. The assistants to observers at stations number ninety-three.

Justice to the two civilian clerks provided by law for this office requires the renewal of the recommendation contained in the last annual report, that they should receive a more adequate compensation, which would be accomplished by an amendment of section 19 of the act of Congress approved March 3, 1863, changing the words "class two" to "class four." The services of these clerks are valuable. Their laborious duties can to some extent be estimated by reference to the appropriate heads in Paper 8. On examination of the classification of clerks in the several bureaus of the War Department, it is ascertained that no duties similar in character and equal in amount to those performed by the two clerks of the signal-service, are paid for at so small a rate as that provided for them ten years ago, when the work of the office was comparatively small.

The comparison and testing of meteoric instruments for the purpose of establishing standards has been continued, as also the study and experiment to provide improved apparatus for the equipment of stations. An electrical self-recording river-gauge, devised by Second Lieut. D. J. Gibbon, acting signal-officer, especially for use at river-stations, is still being tested, as is also one more recently devised by First Lieut. H. H. C. Dunwoody, acting signal-officer and assistant. The electrical self-recording attachment to the anemometer, devised by Lieutenant Gibbon, heretofore adopted by this office, has been improved by him, through the addition of electrical machinery connecting it with the wind-vane, by which the direction, as well as the velocity, of the wind is continuously given. A description of this instrument is given in Paper 7. Lieutenant Gibbon has also devised a self-recording barometer, the fluctuations of which are recorded continuously by means of electricity. This instrument has advantages in simplicity and cheapness.

The instrument-room at this office has been under the general charge of First Lieut. H. H. C. Dunwoody, acting signal-officer and assistant. Paper 20 gives a detailed report of the instruments compared and corrected for station-work, and tested for other purposes during the year.

The telegraphic service connected with the office has been, since January 1st last, under the special charge of Mr. James A. Swift, electrician, whose duties have been well performed. Seven hundred and sixty-eight thousand and sixty-six cipher words of weather-reports have been received by telegraph at, and three hundred and nineteen thousand nine hundred and ninety-two sent from, this office during the year. Three thousand seven hundred and twenty-one telegraphic messages, other than weather-reports, but connected with that work, have also been received, and three thousand four hundred and eighty-six sent. Eighty-three thousand one hundred and thirteen mailed reports have been examined and compared with telegraphic copies, and filed for future reference. The auditing of the bills of telegraph companies is also under the supervision of the electrician.

In the regular discharge of the duties of the office three telegraphic now receives its stated reports is ninety-two, of which seventy-eight a the regular stations in the United States, eleven belong to the Canadi system, and three to that commenced for the West Indies.

Applications have been received for the establishment of one hundr and forty-nine stations, which, with the present appropriations, cann be supplied. Paper 25 exhibits a list of these stations.

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In the regular discharge of the duties of the office three telegraph ports are received daily, each report averaging eight hundred and xteen cipher words. The average time of transmission from the mo- ent the instruments are read at the several stations until the reports f those observations are received at this office, has been eighty-five inutes.

The office has still to regret that its telegraphic facilities are not as omplete as the best discharge of the duties in its care would require. he hope is entertained that this source of difficulty will be removed.

The preparation of the deductions, known as the Synopses and Proba- ilities, from the meteoric data recorded at this office, and the editing of e regular publications, the "Weekly Weather Chronicle," "Monthly eather Review," "Synopses, Probabilities, and Facts," have been dur- g the year in immediate charge of Prof. Cleveland Abbe, assistant; irst Lieut. Robert Craig, acting signal-officer and assistant; Prof. hompson B. Maury, assistant; and First Lieut. H. H. C. Dunwoody, cting signal-officer and assistant. The duties have been performed by em in rotation, each having care of the preparation of the deductions r the period of one month, and for the succeeding month supervising e publications above mentioned. The services of these officers upon ese and other special details assigned them have been marked by delity.

A regular course of study and practice is pursued by officers at this ffice in preparation for these duties. As a portion of this course the llowing writings are required to be carefully read in the order named, iz: Loomis's Treatise on Meteorology; Practical use of Meteorological eports and Weather-Maps; Instructions to Observer-Sergeants; Smith- onian Directions for Meteorological Observations; Buchan's Handy ook of Meteorology; Piddington's Horn Book; Espy's Philosophy of torms; Fitz Roy's Weather-Book; Martin's Rotary Theory of Storms; ey's Laws of the Winds; Espy's First Meteorological Report; Espy's ourth Meteorological Report. In connection with these works, and eference had to others in the library of the office, the officer is required make studies of the daily weather-maps noting thereon the atmos- heric conditions as indicated by the reports, with the variations in ressure, temperature, humidity, wind-direction, &c., and the consequent hanges as exhibited from day to day. The study of text-books and ublications on the subject of meteorology is not considered sufficient r purposes of the education in view, without constant comparison of e reports in their sequence, and the charting of them as received, with e advice and correction of officers experienced in the duty. The chart- g of weather-maps is thus practiced until the officer becomes thor- ughly familiar with the process, after which the preparation of deduc- ons from the tri-daily reports is commenced and made a continuous tudy. Special attention is given to the subject of cautionary signals, ith reference to the direction and velocity of wind considered danger- us at the various cautionary-signal stations.

The tri-daily Synopsis and Probabilities have been issued from this ffice in the manner explained in previous reports with unfailing regu- arity at 10.30 a. m., 6.30 p. m., and 1 a. m., daily, no case of omission or erious delay having occurred during the year.

The display of bulletins and weather-charts at stations, the supply of rompt and gratuitous information to the press, and the exhibitions at esignated stations of day or night signals at times of supposed special anger, have been continued. The total number of tabulated bulletins ssued and distributed at the several lake, sea-coast, and river ports, and inland cities have been one hundred and forty-three thousand and ninety-seven, excluding the special river-bulletins, which have amounted t twenty-three thousand two hundred and ten. The total number c weather-charts issued and distributed has been three hundred an twenty thousand seven hundred and seventy, and the press-reports (exclusive of the publication of the Synopses and Probabilities) have bee twenty-three thousand two hundred and twenty-four.

The attention of the office has, during the past year, been frequentl directed to the fact that the publication of the deductions known a Probabilities alone, as given in many of the journals, is not a sufficien exhibit of the data supplied. It ought to be understood that these deductions given alone constitute but an inferior portion of the information furnished. The plan of the office has been, from the beginning, t publish for public use, and tri-daily, four principal papers: 1st. Th tabulated bulletins, exhibiting tri-daily the observations as read at eac station; 2d. A chart presenting these data chartographically; 3d. A Synopsis; and 4th. A Probability. Each of these papers ought to b read with reference to the others, and if such reading is made with th use of local instruments and some knowledge of meteoric laws, it wil be found that the instances are few in which important meteoric change occur without some warning given of their approach. The tabulate bulletins are prepared for the press at most of the principal cities. Th Synopsis is invariably transmitted to the several press associations together with the Probabilities, the former condensing the facts upo which the opinions stated in the latter are based. The publicatio of the Probabilities alone causes the forecasts to appear as mere oracles and not, as they are designed to be, scientific inferences or deduction from meteorological data actually recorded.

The office has continued, under the direction of the Secretary of Wa its exertions to solve for the special benefit of agricultural interests th problem of giving promptly the information contained in the daily weathe reports to the many farming and other communities not now reached b telegraph, and for which the copies published by the press do not arriv in time for use. The plan adopted has been to divide the territory of th United States into districts, each district having a distributing point a or near the center, from which two printed copies of the Synopses an Probabilities are forwarded by mail to all post-offices within the district and which can be reached by rail, steamer, or mail-coach by 4 p. m. o the same day. These reports are designed to exhibit the probable condition of the weather in the district, including not only notice of storm generally considered dangerous, but, when possible, giving indicatio of dry weather, light rain, extremes of temperature, and frost.

On December 7 last a request was made by the Chief Signal-Officer t the honorable the Postmaster-General, with the approval of the honorable the Secretary of War, for his favorable action upon the plan indicated, and was responded to by the Postmaster-General on Decembe 11, with assurance of the co-operation of the Post-Office Department and the information that he had issued an order instructing all postmasters receiving the above-mentioned reports by mail to post them immediately in the frames supplied for that purpose by this office. S soon as the necessary arrangements could be made, the plan went int operation. The following list shows the stations taken up as distributing points, the time when the special work commenced at each, and th number of post-offices supplied from it.

Station.	Commenced.	Number of offices supplied.
1. Washington	January 3, 1873	146
2. New York	February 25, 1873	607
3. Cincinnati	April 7, 1873	753
4. Chicago	June 14, 1873	798
5. Detroit	July 21, 1873	337
6. Buffalo	July 25, 1873	153
7. Boston	July 15, 1873	403
8. Springfield	July 28, 1873	71
9. Memphis	August 25, 1873	59
0. New Orleans	September 15, 1873	30
1. Pittsburgh	October 1, 1873	298
2. Saint Louis	September 1, 1873	435
3. Montgomery	September 20, 1873	45
4. Nashville	September 4, 1873	96
5. Bangor	September 30, 1873	160

The correspondence on this subject is contained in Paper 21, to which s attached a chart exhibiting the distributing districts contemplated, as well as those established. The co-operation of the War and Post-Office Departments thus described now provides for the regular distribution daily of eight thousand nine hundred and eighty-two copies of he weather report to four thousand four hundred and ninety-one different post-offices, and will still be extended as rapidly as possible. The whole number of these special bulletins printed and distributed is eight hundred and ninety-five thousand and fourteen. The Synopses and Probabilities, as deduced from the midnight observations, are telegraphed at once from the central office at Washington to each of the distributing stations, and there printed in large type by the enlisted men of the signal-service, addressed to the several postmasters, and mailed according to a systematic arrangement, which takes advantage of every moment to reach each point with the greatest speed. The success already attained in the practical working of this plan, and the obvious satisfaction it has given to the public, should be a subject of gratification to the War and Post-Office Departments, as it is to this office. The thanks of the Department are due the honorable the Postmaster-General for the facilities furnished, and under him to Mr. George B. Bangs, superintendent of the railway mail-service, for his personal as well as official assistance. By the different modes of publication adopted for the service, each of which has been arranged with definite purpose, and including that had through the public press, it is estimated that the information emanating from this office reaches daily one-third of the households in the United States.

For the purpose of rendering the office better acquainted with the wants of the agricultural community, many agricultural societies have, at the request of the Chief Signal-Officer, appointed permanent committees to correspond and confer with the office. One hundred and seventeen of these organizations are now in correspondence, (Paper 22,) and notice has been given by others that committees will soon be appointed by them. A list of similar committees appointed by the boards of trade and chambers of commerce, forty-four in number, is in Paper 23.

It has been a duty of the office to publish the information obtained by it in the form of collated statistics. The Weekly Weather Chronicle, which was briefly alluded to in the last annual report as commenced, has been enlarged and improved. Each copy exhibits a general summary of the meteoric changes over the whole region from which reports are received, during the seven days previous to the day of publication,

as well as for each separate day. A special reference is made to t
river-reports. (Paper 24).

During the year nine thousand four hundred and two copies have be
gratuitously distributed to committees of agricultural societies a
boards of trade, to scientific persons in this country and abroad, and
the press.

The Monthly Weather Review, the publication of which was co
menced in January last, reviews the facts for each month concerni
storms, winds, rain-fall, air, river, and ocean temperatures, and the ri
and fall of rivers. It is accompanied with charts showing the tracks
low barometric pressure, the isobars, isotherms, and prevailing win
for the month. The number of copies of this publication issued duri
the year has been six thousand seven hundred and ninety-six. Pap
25 includes the reviews issued since the date of the last annual report

The Daily Bulletin has been prepared as a monthly publication f
each month, from and including September, 1872. Each volume e
hibits the several reports from synchronous observations at the vario
stations at the regular hours, viz, 7.35 a. m., 4.35 p. m., and 11 p.
Washington mean time, with the weather-chart on a reduced scale f
each 'observation in immediate connection not only with the S
nopsis and Probabilities issued for each observation, but the "Fact
succeeding the latter being collated in detail from the reports
the observers made at the next regular observation following t
issue of each Probabilities. This publication exhibits the data up
which this office has been compelled to act in making its tri-daily a
nouncements, and presents for general use the information gathere
This work is not only a contribution of data valuable to meteoric scienc
but aims to show impartially and in detail the successes and failures
the office.

The publications of the office thus referred to amount in the cour
of the year to many volumes. The scope of an annual report permi
this brief reference to them only.

At the request of Prof. Spencer F. Baird, United States commi
sioner of fish and fisheries, the work of the observers at the statio
favorably located for the purpose has been increased, by requiring o
servations to be taken daily of the water temperatures in the differe
rivers and harbors. The reports of these observations are made on
special form, (Paper 24.) These reports have not yet been continu
sufficiently long to permit of safe deductions, but promise to have us
ful results in the solution of problems beyond the important objects
pisciculture throughout the United States for which they were at fir
instituted.

An additional duty was imposed upon the Secretary of War by t
provision of the act of Congress approved March 3, 1873, entitled—

An act making appropriations for sundry civil expenses of the Government for the fiscal year endi
June thirtieth, eighteen hundred and seventy-four, and for other purposes, as follows:

Be it enacted by the Senate and House of Representatives of the United States of Amer
in Congress assembled, That the following sums be, and the same are hereby, approp
ated for the objects hereinafter expressed, for the fiscal year ending June thirtiet
eighteen hundred and seventy-four, namely:

* * * * * * * * *

For contingencies of life-saving stations on the coast of the United States, fifte
thousand dollars. And that the Secretary of War be and hereby is authorized to
tablish signal-stations at light-houses, at such of the life-saving stations on the la
or sea coasts as may be suitably located for that purpose, and to connect the same wi
such points as may be necessary for the proper discharge of the signal-service by mea
of a suitable telegraph line in cases where no lines are in operation, to be constructe
maintained, and worked under the direction of the Chief Signal-Officer of the Army,

e Secretary of War and the Secretary of the Treasury; and the use of the life-sav-
g stations as signal-stations shall be subject to such regulations as may be agreed
pon by said officials; and the sum of thirty thousand dollars is hereby appropriated
carry into effect this provision.

In discharge of this duty a telegraph line has been completed ten
iles in length, from Seaville to Peck's Beach, N. J., connecting at Sea-
lle with the line of Western Union Telegraph Company. The mate-
al is ready, and the work is in progress on the construction of a line
om Sandy Hook to Barnegat Inlet, N. J., a distance of fifty miles, con-
ecting with the Western Union line at Long Branch. These connec-
ons will allow of signals being displayed at the life-saving stations es-
blished at Sandy Hook, Long Branch, Barnegat, Atlantic City, Peck's
each, and Cape May. The plan in contemplation proposes the estab-
shment of signal-stations at life-saving stations and light-houses along
e ocean-coast of New Jersey, from Sandy Hook to Cape May, at dis-
nces of twenty-five miles from each other. A line is in process of
ection from the village of Rockport, Mass., to Thatcher's Island light-
ouse, a distance of three miles and a half, of which one mile and a
alf will be cable.

A line connecting the stations at life-saving stations and light-houses
ong the coast from Norfolk, Va., to Cape Hatteras, N. C., a distance
f one hundred and thirty-seven miles, and on one of the most danger-
us coasts of the United States, is in construction. It is expected that
e above-mentioned lines will be completed during the present year.
ttention is invited to the fact that the whole work now done in the
ection of these lines, and to be done hereafter in operating them, has
een done and is to be done by the officers and men of the signal-serv-
e of the Army. By no other agency could so large an amount of line
situated be constructed with the small appropriation provided.

It is not necessary to dwell upon the benefits to result from the work
f the stations thus provided for. Not only will the meteoric informa-
on regularly received be greatly increased in amount and value by that
ken on the sea-coast and at the actual sea-level; but storm-warnings
isible at a sufficient distance from shore to allow often of the proper
eans to be taken for safety, can be given to vessels approaching dan-
erous coasts, while on the occurrence of inevitable disaster assistance
an be summoned at once from the neighboring life-saving stations, and
formation regarding the occurrence be transmitted to underwriters
nd others interested. Communication can readily be held by signal
nd telegraph with vessels of the naval and merchant marine from
Vashington and from other cities, and the coast will be provided with
vidette system, invaluable in time of possible war. The expense of se-
uring these advantages to the country is comparatively trifling, the
bserver-sergeant of the signal-service at each station being charged
ith the telegraphic operations, and the necessary lines being con-
ructed, maintained, and worked under the direction of the Chief Sig-
al-Officer by enlisted men of the signal-service. It is to be hoped that
ongress will, by future appropriation, allow the extension of this spe-
ial work to the lake and sea coasts, where the life-saving and light-
ouse systems are deemed necessary, affording thus coast-service un-
aralleled in the world. The thanks of the Chief Signal-Officer are due
Mr. S. I. Kimball, the chief of the Revenue-Marine Bureau, who has
endered rooms in each of the selected station-houses of the life-saving
ervice for the observer-sergeant of the signal-service, and has provided,
y the erection of a flag-staff on the new buildings, for the proper dis-
lay of signals.

At the request of Hon. Francis A. Walker, Superintendent of
United States Census, for the contribution by this office of chart
form part of the statistical atlas of the United States, the compila
of which is, by law, in his charge, such are now in course of prep
tion, showing, for the year 1872-'73, the following meteorological det
viz: The isobarometric lines; the number of times each directio
wind is recorded; the average hourly velocity of each wind; the n
mum recorded velocity of each wind; the total annual movement of
wind; the distribution of storms or storm frequency.

While responding, when possible, to all requests made for statis
and other information, the thanks of the Chief Signal-Officer mus
rendered to many scientists, in this country and abroad, for their v
able assistance. Especial acknowledgment is to be made to Prof. J
Tyndall, of the Royal Institution, London; Sir William Thomson,
fessor of natural philosophy in the University of Glasgow; Dr. F
Patterson, of San Antonio, Tex.; Rev. James Rankin, D. D., presi
of Hobart College, Geneva, N. Y.; and Mr. M. F. Stevenson, Gai
ville, Fla., have contributed regular or occasional reports of value.
agent of the Pacific Mail Steamship Company at New York has
warded a large number of marine records on forms furnished by
office, and since July, 1872, regular monthly meteoric reports have b
received from the commanding officer of the United States receiv
ship Vermont, stationed at the Brooklyn navy-yard. Capt. J. Sang
of the bark Express, of Annapolis, Nova Scotia, has presented a log-b
showing records of voyages from June, 1872, to February, 1873,
one hundred and thirty-eight logs of vessels have been collected by
observer-sergeants stationed along the Atlantic and Pacific coasts
procuring which the sergeants at Wilmington, N. C., and San Franci
Cal., have been most active. It is much to be regretted that so fe
the forms prepared for the purpose of being filled up with report
observations made at sea, and widely distributed, have yet been
turned to this office. The accurate reports of storms on the ocea
whether passing from or advancing upon the coasts of the United Sta
are of much importance for study, even when not in time for immed
deductions.

An interesting contribution to meteoric knowledge, prepared by P
C. Abbe, assistant, from the records of the office, will be found in Pa
32, showing a chronological list of the auroras observed at the respec
signal-service stations from November 11, 1870, to July 31, 1873, in
sive.

On June 12, 1871, Observer-Sergeant Frederick Meyer, Signal-Serv
United States Army, was, at the special request (approved by the S
retaries of War and of the Navy) of Capt. C. F. Hall, commander of
north polar expedition, authorized by Congress, ordered to report
him for duty in connection with that expedition with a complete se
meteorological instruments and signal equipments furnished by
office. The orders and instructions of Sergeant Meyer, and a rep
prepared by him since his return, are included in Paper 27.

The following table, prepared by First Lieut. Robert Craig, act
signal-officer and assistant, gives the lowest observed readings of
low barometers, with number of areas traced for each month, from
tober 1, 1872, to September 30, 1873, inclusive:

Oct.,	1872,	eight areas of low barometer, varying from	29.35 to 2
Nov.,	1872,	nine areas of low barometer, varying from	29.08 to 2
Dec.,	1872,	twelve areas of low barometer, varying from	29.17 to 2
Jan.,	1873,	ten areas of low barometer, varying from	29.07 to 2

b., 1873, nine areas of low barometer, varying from .... 29.04 to 29.49.
arch, 1873, eleven areas of low barometer, varying from .... 28.80 to 29.52.
ril, 1873, ten areas of low barometer, varying from .... 29.27 to 29.62.
y, 1873, nine areas of low barometer, varying from .... 29.28 to 29.63.
ne, 1873, ten areas of low barometer, varying from .... 29.26 to 29.95.
ly, 1873, thirteen areas of low barometer, varying from .... 29.44 to 29.68.
g., 1873, twelve areas of low barometer, varying from .... 29.49 to 29.79.
pt., 1873, eleven areas of low barometer, varying from .... 29.21 to 29.76.

The charts appropriate to these areas will be found among those at-
ched to Paper 25.

As the severe storms of the 14th August, in New Jersey, and the
th and 25th of the same month, in Nova Scotia, were, from the want
stations at requisite points, and also from temporary failure of the
legraph, not fully presented for study in the regular tri-daily maps of
is office, and yet possessed features worthy of special attention, Pro-
ssor Abbe, assistant, was directed to collate in reference to it such
formation as could be obtained from the logs of vessels and similar
urces. The detailed results of his work are given in Paper 28.

Both of these storms had their origin and much of their course beyond
e limits of the United States, and beyond the scope of the observa-
ons taken at the regularly-established stations. The presence of sim-
ar cyclones passing near the coasts of the United States, and which
e likely to be encountered by vessels sailing from the sea-coast ports,
ill, it is hoped, be recognizable by the observations to be taken at the
ries of stations now in process of establishment at the life-saving sta-
ons along the coasts. The telegraphic communication to be estab-
shed with the Bermuda Islands will be of utility in this connection.

A valuable report by Prof. I. A. Lapham upon disasters to ship-
ng upon the great American lakes, from the 1st of January to the 1st
September, 1873. is hereto annexed, as Paper 29.

On May 26, last, Observer-Sergeant James Mackintosh, Signal-Ser-
ce, United States Army, was ordered to proceed to the district trav-
sed by the violent tornado which passed through Iowa and Illinois on
ay 22, and to make a full report of its origin, path, and attendant
enomena. (Paper 30.)

The storm of April 14–18 presented features of peculiar interest. A
scription of the storm, with charts of its course as traced, prepared
Observer-Sergeant Theodore Smith, Signal-Service, United States
rmy, is herewith, (Paper 31.)

The stations on the sea and lake coasts, especially designated as
utionary-signal stations, at which the display of signals is ordered for
e benefit of commerce, are the following, thirty in number, viz: New
rleans, Mobile, Jacksonville, Savannah, Charleston, Wilmington, N.
, Norfolk, Cape May, Baltimore, New York, New Haven, New London,
ood's Hole, Boston, Portland, Me., Eastport, Oswego, Rochester, Buf-
lo, Erie, Cleveland, Toledo, Detroit, Alpena, Grand Haven, Chicago,
ilwaukee, Escanaba, Marquette, and Du Luth.

During the year orders have been issued for the display of the caution-
y signals, described in previous reports, in anticipation of eighty-eight
obable storms. In seventy cases the storms anticipated manifested
eir effects at one or more of the stations at which the signals were
dered; the signals thus giving warning to shipping and other inter-
ts which would otherwise, perhaps, have been dangerously exposed.

The order for each cautionary signal is special, and issued under the
llowing rules: The display is ordered at a signal-station whenever the
ficer in charge of that duty considers it probable that there will be
perienced within twelve hours at that station, or within one hundred

miles thereof, and on any navigable stream, a wind dangerous to nav gation. Dangerous winds on the navigable waters are, for the order question, considered to be those reaching a velocity of twenty-five mil per hour, as registered by the anemometer on the land, provided th the temperature be decidedly above freezing. For temperature decided below freezing, and for foggy weather, winds are to be considered da gerous when the velocities are registered so low as twenty miles. T direction of the wind is not taken into consideration for the prese If at the tri-daily report next following the ordering of the signals appears that the danger is not so imminent as was apprehended, t signal is to be ordered down. It is not to be displayed for an inde nitely long time. The immediate area referred to by the respecti cautionary signals is as defined on the map of cautionary-signal statio at the office of the Chief Signal-Officer, which may be generally describ as a circle, with a radius of one hundred miles, the station being t center. When any warning is given for points upon the lakes, the oth lake-stations are notified of the warning. Each station is also notifi when the signals are ordered down at any other station.

As in preceding years, where there has been error of display it h been on the side of caution. While on occasions the signals order may have proved unnecessary, and are so reported unverified, on t other hand no extensive storm has occurred in the regions included the system of cautionary signals without warnings of its approach ha ing been displayed in at least part of its course. While neither the i dications upon which signals are certainly to be displayed, nor modes verifying the display, have been as yet accurately arrived at, the publ confidence exhibited in the heed given to the warnings when they a shown, has evidenced their general utility.

Pursuant to the arrangements with Prof. G. T. Kingston, of Toront chief of the Dominion Meteorological Bureau, to which reference w made in the last annual report, forty dispatches, giving warning of a proaching storms, have been sent to the Bureau under his charge.

The geographical divisions and subdivisions of the United States reference to which meteoric phenomena are considered, and which a referred to in the preparation of Synopses and Probabilities, are as f fows:

DIVISIONS.

1. Pacific States.
2. Extreme Northwest.
3. Northwest.
4. Southwest.
5. Southern States.
6. Lake Region.
7. Middle States.
8. New England States.
9. Saint Lawrence Valley.

SUBDIVISIONS.

1. Missouri Valley.
2. Upper Mississippi Valley.
3. Lower Mississippi Valley.
4. Ohio Valley.
5. Western Gulf.
6. Eastern Gulf.
7. Upper Lakes.
8. Lower Lakes.
9. South Atlantic.
10. Middle Atlantic.

A chart illustrating the territorial limits of each of these divisio and subdivisions is hereto attached. (Paper 32.)

The percentage of verification for each geographical division or subivision named has been for the year as follows:

ew England	81.50	Ohio Valley	76.42
iddle States	81.17	Western Gulf	74.40
outh Atlantic	79.92	Upper Lakes	75.25
ower Lakes	78.90	Northwest	74.00
astern Gulf	77.16		

These percentages have been obtained by a careful analysis of the deuctions as announced each day for each geographical division or subivision mentioned, and the comparison of them with the facts subseuently obtained from the weather-reports for that date. A numerical alue is given each item, as temperature, pressure, wind-direction, &c., ientioned in each deduction and verified; the sum of these values ivided by the number of deductions exhibiting the average of verificaion for any period with approximate accuracy.

The aggregate percentage of verification ranges higher in New Enland, the Middle States, the South Atlantic, and the Lower Lake egion, than in the West, Southwest, and Northwest.

With a more rigid and scrutinizing mode of calculation than was efore adopted, the percentages have improved upon those of the preeding year; the analysis of the year's work indicating at once the wisdom f increasing the number of stations and the regions in which they hould be established. The percentage of verifications for each district xhibits a proportion to the number of stations from which reports havng reference to the atmospheric conditions in the district under considration have been received. It is thus to a certain extent mathematically emonstrated that the rules applied for the deductions of the forecasts re practically correct, and that with increasing facilities the percentage f verifications can be annually increased. It is not known that a demontration of this character has been before attained.

In pursuance of invitations issued by the Austrian government, a ongress of persons charged with meteoric duties was convened in ienna in the month of September last, at which the Chief Signal-fficer was present under instructions from the Secretary of War. The roceedings of this congress cannot fail to be of importance as tending o establish a uniformity in methods of conference and of action. The pportunities it afforded of personal meeting and observation among the epresentatives from different countries must be productive of beneficial ffects. The concurrence of the congress by a unanimous vote in a roposition to the effect that it is desirable, with a view to their exhange, that at least one uniform observation of such character as to be uitable for the preparation of synoptic charts should be taken and reorded daily and simultaneously at as many stations as practicable hroughout the world, is regarded as of especial importance in reference o duties of the character of those now undertaken by the United States.

With the study of synoptic charts, the field of which may, with roper co-operation, on land and at sea, be made almost world-wide, here is reason to anticipate the discovery of facts relating to atmosheric phenomena and to the origin and movement of storms not hitherto ecognized. It is to such co-operation effort will be directed. It is gratiying to state, in this connection, that arrangements have already been nade with the meteorological offices at St. Petersburg, London, and onstantinople to commence the exchange by mail on January 1, 1874, f one daily simultaneous report taken over the vast territorial extent f the Russian and Turkish Empires, the British Islands, and the United tates. (Paper 33.) The co-operation of the systems of other nations, f scientific associations, societies, and individuals is sought for and expected. With a work in view, not for the sole benefit of any country people, but reaching to the good of all, there is ground to hope a worl assistance.

In the review of the year's duties there is found encouragement the future. While the office has had to encounter many difficulties, details of which would be out of place in this report, there has been assurance that its labors have not been without a value generally rec nized. The office acknowledges, as in preceding years, the gene support of the popular opinion, of scientific men, of the press, and of War Department. Without this aid the work achieved would ha been impossible. Whenever errors have occurred, it has been recogni as inevitable that some must occur in the present condition of scien Success has been generously commended. The evidences of inter and progress in similar duties are extending in all countries. Th utility is no longer questioned, and effort at home and abroad turns o toward their development. The field becomes world-wide with the pro ise of results a few years ago hardly to be hoped for. There will needed time and labor; there must often be disappointment; but public good to follow is certain.

I am, sir, very respectfully, your obedient servant,

ALBERT J. MYER,

Brig. Gen., (Bvt. Ass'g'd,) Chief Signal-Officer, U. S. A

PAPER 1.

RECORD OF SIGNAL-CAMP OF INSTRUCTION, FORT WHIPPLE, VA.

Officers instructed during the year ending September 30, 1873.

Name.	Rank and corps.	Reported for instruction.	Relieved from instruction.	Remarks.
David J. Gibbon ...	Second lieutenant Ninth Cavalry.	Sept. 4, 1872	Dec. 20, 1872	Completed full course signaling, telegrap and meteorology.
Eugene O. Fechét..	Second lieutenant Second Artillery.	Dec. 4, 1872	Dec. 26, 1872	Relieved before comple full course of instruct
W. B. Weir	Second lieutenant Fifth Artillery.	June 16, 1873	....	Still under instruction.
F. C. Grugan	First lieutenant Second Cavalry.	Sept. 27, 1873	....	Do.
George S. Grimes ..	First lieutenant Second Artillery.	Sept. 4, 1873	....	Reviewing course.
C. C. Wolcott	First lieutenant Third Artillery.	Sept. 4, 1873	....	Do.

PAPER 2.

Amount of field-practice had by each officer.

Name.	Rank and corps.	Number of days flag-practice was had.	Number of nights torch-practice was had.	Remarks.
David J. Gibbon ...	Second lieutenant Ninth Cavalry	14	6	
Eugene O. Fechét..	Second lieutenant Second Artillery.	....	....	Study of Manual of Sig Wand Practice, &c., twelve days.
W. B. Weir	Second lieutenant Fifth Artillery	16	7	Still under instruction.
F. C. Grugan	First lieutenant Second Cavalry ..	....	....	Do.
George S. Grimes ..	First lieutenant Second Artillery	....	....	Reviewing course.
C. C. Wolcott	First lieutenant Third Artillery..	....	....	Do.

PAPER 3.

able showing the instruction of candidates for the grade of observer-sergeant from October 1, 1872, *to September* 30, 1873.

Name.	Instruction commenced.	Date of examination and promotion.	Remarks.
ichard Williams		Oct. 1, 1872	In charge of station at La Crosse, Wis. Reduced August 12, 1872; re-appointed sergeant October 1, 1872.
avid W. Harnett	Sept. 19, 1872	Oct. 19, 1872	Reduced to the ranks for misconduct; deserted, and now in confinement at Fort Whipple, Va.
ames H. Marsh	Aug. 26, 1872	....do	In charge of station at Keokuk, Iowa.
. Filbert Nagle	Sept. 1, 1872	Nov. 1, 1872	On duty at office of the Chief Signal-Officer.
harles H. Sprenger	....do	....do	On duty at Fort Whipple, Va.
ichael F. Tighe	Mar. —, 1872	....do	On duty at New York City.
imothy O'Neil	Sept. 23, 1872	Nov. 15, 1872	In charge of station at New London, Conn.
Villiam Black	Sept. 30, 1872	....do	In charge of station at New Haven, Conn.
ames K. P. Purdum	Oct. 2, 1872	....do	In charge of station at Wood's Hole, Mass.
red. M. Clarke		Dec. 11, 1872	Discharged the service September 26, 1873.
ames H. Garrard		....do	Reduced March 12, 1872; re-appointed December 11, 1872; reduced September 1, 1873. On duty at Fort Whipple, Va.
oseph E. Cook	Nov. 1, 1872	Dec. 16, 1872	In charge of station at Toledo, Ohio.
ydney Powell	....do	....do	In charge of station at Pembina, Dak.
red. Z. Gosewisch	Oct. 31, 1872	....do	In charge of station at Wytheville, Va.
enry U. Jones	Nov. 8, 1872	Dec. 28, 1872	In charge of station at Lynchburgh, Va.
Villiam H. Colesberry	Nov. 16, 1872	....do	In charge of station at Buffalo, N. Y.
dward W. McGann	....do	....do	In charge of station at Norfolk, Va.
ichard McLaughlin	Nov. 18, 1872	....do	In charge of station at Jacksonville, Fla.
dward A. Lewis	Dec. 4, 1872	Feb. 7, 1873	On duty at Fort Whipple, Va.
Villiam Finn	Dec. 15, 1872	....do	In charge of station at Detroit, Mich.
Villiam C. W. Shreck	Dec. 27, 1872	....do	In charge of station at Eastport, Me.
amuel P. Ruthven	Dec. 7, 1872	....do	In charge of station at Davenport, Iowa.
tto Schütze	Dec. 26, 1872	Feb. 8, 1873	In charge of station at Wilmington, N. C.
eroy E. Sebree	Dec. 8, 1872	....do	On duty at office of the Chief Signal-Officer.
Vill Stromberger	Jan. 11, 1873	Mar. 8, 1873	In charge of station at Cleveland, Ohio.
ewton Phelps	....do	....do	In charge of station at Yankton, Dak.
dwin F. McComas	Jan. 14, 1873	....do	In charge of station at Erie, Pa.
homas A. Taylor	Jan. 3, 1873	....do	In charge of station at Fort Gibson, Ind. T.
dward B. Robbins	Jan. 18, 1873	Mar. 11, 1873	On duty at office of the Chief Signal-Officer.
erman M. Ludwig	Jan. 22, 1873	....do	In charge of station at Milwaukee, Wis.
Vyllys A. Chapman	Jan. 18, 1873	....do	Awaiting orders at Fort Whipple, Va.
owell G. Deitz	Feb. 9, 1873	Apr. 8, 1873	In charge of station at Boston, Mass.
ohn D. M. Fee	Feb. 12, 1873	....do	In charge of station at Morgantown, W. Va.
ugh R. Stockman	Mar. 7, 1873	May 1, 1873	On duty at office of the Chief Signal-Officer.
rank H. Wash	....do	May 24, 1873	On duty at Fort Whipple, Va.
avid C. Ralston	Apr. 5, 1873	....do	On duty at office of the Chief Signal-Officer.
eorge Onslow	Apr. 28, 1873	June 27, 1873	Temporarily in charge of station at Yankton, Dak.
ennett C. Anderson	Apr. 29, 1873	....do	In charge of station at Key West, Fla.
ames M. Watson	Apr. 26, 1873	....do	On duty at Cincinnati, Ohio.
oseph F. Tenney	Apr. 23, 1873	....do	Awaiting orders at Fort Whipple, Va.
Villiam O Bailey	Apr. 25, 1873	Aug. 11, 1873	On duty at Saint Louis, Mo.
homas Cleary	May 14, 3873	....do	In charge of station at Omaha, Nebr.
mbrose D. Woolcott	May 26, 1873	....do	In charge of station at Lake City, Fla.
Villiam McGillivray	June 11, 1873	Sept. 9, 1873	In charge of station at Fort Benton, Mont.
esse W. Craig	June 15, 1873	....do	In charge of station at Louisville, Ky.
homas S. Collins	June 26, 1873	....do	Awaiting orders at Fort Whipple, Va.
oseph B. Campbell	Jan. 28, 1873	Sept. 25, 1873	In charge of station at Virginia City, Mont.
Villiam Ramsay	July 7, 1873	....do	In charge of station at Fort Sully, Dak.
awrence Dunne	....do	....do	Awaiting orders at Fort Whipple, Va.
Villiam D. Wright	Dec. 5, 1872		Ordered to office of Chief Signal-Officer for duty before completing course. Presented himself for examination, but failed to pass.
dward Moran	Dec. 26, 1872		Ordered to office of Chief Signal-Officer before completing course.
ark Foley	Jan. 30, 1873		Failed to pass examination. Now on duty as assistant at Keokuk, Iowa.
aurice Neligan	Feb. 22, 1873		Ordered to Philadelphia, Pa., for duty before completing course.
ames Courtney	Apr. 14, 1873		Ordered to office of Chief Signal-Officer before completing course.
imon S. Bassler	July 10, 1873	Sept. 29, 1873	Passed examination and awaiting promotion.
heodore C. Taylor	July 14, 1873	....do	Do.
aniel O'Leary	July 21, 1873	....do	Do.
ohn R. Williams	Aug. 7, 1873		Still under instruction.
ohn O. Barnes	Aug. 8, 1873		Do.
ames Mitchell	Aug. 9, 1873	Sept. 29, 1873	Passed examination and awaiting promotion.

Table showing the instruction of candidates for the grade of observer-sergeant, &c.—Continu

Name.	Instruction commenced.	Date of examination and promotion.	Remarks.
George W. McKee	Aug. 21, 1873		Still under instruction.
Sherman B. Lum	....do		Do.
Allen M. Geissinger	Aug. 27, 1873		Do.
William Stein	Sept. 6, 1873		Do.
Edwin Booth	Sept. 8, 1873		Do.
Henry Bessant	Sept. 10, 1873		Do.
Dennis M. Kennedy	....do		Do.

Paper 4.

Enlisted men instructed for the position of assistants to observer-sergeants from Octobe 1872, to September 30, 1873.

Name.	Placed under instruction for assistant.	Reported qualified as assistant.	Ordered on station.	Remarks.
Thomas Cleary	Sept. 13, 1872	Oct. 7, 1872	Oct. 25, 1872	Promoted to the rank of sergeant charge of station at Omaha, N
Joseph F. Tenney	Sept. 26, 1872	Oct. 22, 1872	Nov. 1, 1872	Promoted to the rank of serge Awaiting orders at Fort Whip Va.
William O. Belt	Sept. 17, 1872	Oct. 22, 1872	Nov. 1, 1872	Died of yellow fever at Galves Tex., September 18, 1873.
Julius F Beyer	Sept. 28, 1872	Oct. 22, 1872	Nov. 1, 1872	Accidentally killed at Leavenwo Kans., while in the discharge his duty.
John McGuire	Aug. 17, 1872	Sept. 11, 1872	Oct. 25, 1872	Ordered to Fort Whipple, Va., misconduct.
Joseph B. Campbell	Aug. 23, 1872	Sept. 21, 1872	Oct. 25, 1872	Promoted to the rank of serge In charge of station at Virg City, Mont.
Samuel C. Pearce	Oct. 5, 1872	Nov. 7, 1872		Discharged the service of the Un States November 13, 1872.
John B. Yeaman	Oct. 5, 1872	Dec. 6, 1872		Discharged the service of the Un States December 19, 1872.
Adonirum J. Berry	Oct. 4, 1872	Nov. 7, 1872	Nov. 18, 1872	On duty as assistant at Escan Mich.
James E. Cairns	Oct. 4, 1872	Nov. 7, 1872	Nov. 12, 1872	Ordered to Fort Whipple, Va., misconduct.
Alex. C. J. Gustafson	Oct. 11, 1872	Nov. 7, 1872	Nov. 18, 1872	Do.
Herbert M. Wells	Oct. 11, 1872	Nov. 7, 1872	Nov. 25, 1872	On duty as assistant at Roches N. Y.
Allen M. Geissinger	Oct. 11, 1872	Nov. 7, 1872	Nov. 25, 1872	Ordered to Fort Whipple, Va., promotion.
Thomas S. Collins	Oct. 12, 1872	Nov. 7, 1872	Nov. 25, 1872	Promoted to the rank of serge Awaiting orders at Fort Whip Va.
Alexander Ross	Oct. 12, 1872	Nov. 7, 1872	Dec. 7, 1872	Deserted while on duty as assist at Saint Paul, Minn.
Edward F. Brady	Oct. 21, 1872	Dec. 7, 1872	Dec. 10, 1872	On duty as assistant at Cairo, Ill.
Theodore C. Taylor	Oct. 28, 1872	Dec. 7, 1872	Dec. 10, 1872	Ordered to Fort Whipple, Va., promotion.
John R. Williams	Nov. 8, 1872	Jan. 11, 1873	Jan. 13, 1873	Do.
Daniel O'Leary	Nov. 8, 1872	Dec. 14, 1872	Dec. 16, 1872	Do.
Sherman B. Lum	Nov. 8, 1872	Dec. 14, 1872	Dec. 16, 1872	Do.
Jesse W. Craig	Nov. 16, 1872	Dec. 14, 1872	Dec. 16, 1872	Promoted to the rank of serge In charge of station at Louisv Ky.
Charles Dill	Nov. 16, 1872	Dec. 14, 1872	Jan. 21, 1873	On duty as assistant at Portland,
Jacob M. Frantz	Nov. 16, 1872		May 21, 1873	On duty as assistant at Detroit, M
Chris. J. Costello	Nov. 16, 1872	Jan. 11, 1873	Jan. 21, 1873	On duty as assistant at New Lon Conn.
Edwin K. Moore	Nov. 25, 1872	Dec. 14, 1872	Dec. 23, 1873	On duty as assistant at Punta Ra Fla.
John O. Barnes	Dec. 6, 1872	Jan. 3, 1873	Jan. 3, 1873	Ordered to Fort Whipple, Va., promotion.
George C. Coyle	Dec. 13, 1872	Jan. 16, 1873	Feb. 4, 1873	Ordered to Fort Whipple, Va., misconduct.
Dennis M. Kennedy	Dec. 13, 1872	Jan. 11, 1873	Jan. 21, 1873	Ordered to Fort Whipple, Va., promotion.
Thomas Jones	Dec. 13, 1872	Jan. 11, 1873	Mar. 18, 1873	On duty as assistant at Leavenwo Kans.
Emile T. Carvalho	Dec. 13, 1872	Jan. 11, 1873	Jan. 13, 1873	On duty as assistant at Norfolk,
James Mitchell	Dec. 21, 1872	Jan. 16, 1873	Apr. 10, 1873	Ordered to Fort Whipple, Va., promotion.
Simon S. Bassler	Dec. 23, 1872	Jan. 16, 1873	Jan. 21, 1873	Do.
Edwin Booth	Dec. 27, 1872	Jan. 16, 1873	Jan. 21, 1873	Do.

Enlisted men instructed for the position of assistants to observer-sergeants, &c.—Continued.

Name.	Placed under instruction for assistant.	Reported qualified as assistant.	Ordered on station.	Remarks.
William D. Halliday	Jan. 6, 1873	Feb. 8, 1873	Feb. 10, 1873	On duty as assistant at Indianapolis, Ind.
Addison Slamm	Jan. 6, 1873			On duty as assistant at Duluth, Minn.
George W. Elmer	Jan. 6, 1873			On duty at office of Chief Signal-Officer.
Milton M. Lewis	Jan. 11, 1873	Feb. 21, 1873	Feb. 21, 1873	On duty as assistant at Key West, Fla.
Henry Bessant	Jan. 23, 1873	Feb. 21, 1873	Feb. 21, 1873	Ordered to Fort Whipple, Va., for promotion.
Winfield S. Popple	Jan. 25, 1873	Feb. 21, 1873	Mch. 14, 1873	On duty as assistant at Chicago, Ill.
John D. Sumet	Feb. 8, 1873	Mar. 3, 1873	Mch. 14, 1873	On duty as assistant at Memphis, Tenn.
Edward H. Canfield	Feb. 8, 1873		Feb. 12, 1873	Ordered to Fort Whipple, Va., for misconduct. Discharged.
Aloise Dunhauser	Feb. 8, 1873	Mar. 3, 1873	Apr. 1, 1873	On duty as assistant at Milwaukee, Wis.
Edgar McGovern	Feb. 8, 1873	Mar. 3, 1873	Mch. 14, 1873	On duty as assistant at New Orleans, La.
Charles A. Stone	Feb. 12, 1873			On duty at office of Chief Signal-Officer.
Mark Downing			Mar. 1, 1873	Ordered to Fort Whipple, Va., for misconduct.
Joseph E. Mayhew	Feb. 27, 1873		Apr. 3, 1873	Do.
Abraham B. Hiltman	Mar. 3, 1873	Apr. 12, 1873	May 7, 1873	Do.
William McElroy	Feb. 12, 1873		Apr. 14, 1873	Reduced from sergeant March 24, 1873. On duty as assistant at Toledo, Ohio.
George B. Till	Mar. 14, 1873			On duty at office of Chief Signal-Officer.
John J. Nanry	Mar. 14, 1873	May 3, 1873	May 7, 1873	On duty as assistant at Charleston, S. C.
Thomas S. Eastlack	Mar. 17, 1873	May 3, 1873	May 14, 1873	Ordered to Fort Whipple, Va., for misconduct.
Malcolm H. Perry	Apr. 9, 1873		May 8, 1873	On duty as assistant at Cheyenne, Wyo.
Barnet E. Light	Apr. 9, 1873	May 31, 1873	June 3, 1873	On duty as assistant at Davenport, Iowa.
George H. Rohe	Apr. 9, 1873		May 14, 1873	On duty as assistant at Chicago, Ill.
William Seely	Apr. 12, 1873		May 24, 1873	Died at base of Mount Washington, N. H., July 2, 1873.
James H. Smith, (1st)	Apr. 12, 1873		May 28, 1873	Ordered to Fort Whipple, Va., for incapacity.
William J. Parker	Apr. 16, 1873			On duty at office of Chief Signal-Officer.
George W. Schlosser	Apr. 21, 1873	June 14, 1873	June 16, 1873	Discharged the service of the United States July 12, 1873.
George H. Crane	Apr. 21, 1873		May 24, 1873	On duty as assistant at Buffalo, N. Y.
James A. Barwick	Apr. 25, 1873		May 24, 1873	On duty as assistant at Saint Paul, Minn.
James H. Smith, (2d)	Apr. 25, 1873		May 24, 1873	On duty as assistant at Pike's Peak, Colo.
Herrmann Frey	Apr. 25, 1873	May 31, 1873	June 3, 1873	On duty as assistant at Savannah, Ga.
Francis Anderson	Apr. 25, 1873		June 16, 1873	On duty as assistant at Baltimore, Md.
Samuel C. Emery	May 5, 1873	May 31, 1873	June 9, 1873	On duty as assistant at Chicago, Ill.
Charles L. Josselyn	May 5, 1873	June 14, 1873	June 16, 1873	On duty as assistant at Vicksburgh, Miss.
Charles M. Hobbs	May 12, 1873		June 10, 1873	On duty as assistant at Cincinnati, Ohio.
Robert Strain	May 14, 1873			On duty at Detroit, Mich.
Joseph Lambden	May 17, 1873	June 28, 1873	July 8, 1873	Ordered to Fort Whipple, Va., for misconduct.
William J. Evans	May 17, 1873	June 21, 1873	June 23, 1873	On duty as assistant at Philadelphia, Pa.
John V. Brown	May 17, 1873	June 14, 1873	July 2, 1873	Ordered to Fort Whipple, Va., for misconduct.
John A. Cody	May 20, 1873	June 21, 1873	July 1, 1873	On duty as assistant at Lake City, Fla.
Edward D. Holbrook	May 19, 1873	June 28, 1873	July 1, 1873	On duty as assistant at Boston, Mass.
Dwight D. Stansell	May 24, 1873	June 30, 1873	July 7, 1873	On duty as assistant at Nashville, Tenn.
Isaac A. Reed	May 27, 1873	June 30, 1873	July 7, 1873	On duty as assistant at Pittsburgh, Pa.
Benjamin M. Purssell	May 31, 1873	July 12, 1873	July 28, 1873	On duty as assistant at Buffalo, N. Y.
Alfred P. Guthrie	May 31, 1873	July 12, 1873	July 26, 1873	Awaiting orders at Fort Whipple, Va.
Ned Warren	May 31, 1873	July 12, 1873	July 30, 1873	On duty as assistant at Louisville, Ky.
Edward Bird	June 3, 1873	July 26, 1873	July 30, 1873	On duty as assistant at Oswego, N. Y.
John McCann	June 7, 1873	July 26, 1873	July 29, 1873	On duty as assistant at Omaha, Nebr.
Henry L'Esterre	June 7, 1873	July 26, 1873	Aug. 1, 1873	On duty as assistant at Erie, Pa.

Enlisted men instructed for the position of assistants to observer-sergeants, &c.—Continue

Name.	Placed under instruction for assistant.	Reported qualified as assistant.	Ordered on station:	Remarks.
Fred De Rosher	June 7, 1873	Aug. 2, 1873	Aug. 5, 1873	On duty as assistant at Mount Wa ington, N. H.
Leander A. Lemman	June 14, 1873	July 26, 1873	Aug. 12, 1873	On duty as assistant at Pike's Pe Colo.
John C. Hanscom	June 14, 1873	July 26, 1873	Sept. 2, 1873	On duty as assistant at Cincinn Ohio.
Michael L. Landers	June 14, 1873	July 26, 1873	July 28, 1873	On duty as assistant at Clevela Ohio.
Charles Fryer	June 14, 1873	Sept. 6, 1873	Sept. 8, 1873	On duty as assistant at Baltimore,
Pliny M. Hough	June 18, 1873			On duty at office of Chief Sig Officer.
John C. Senger	June 20, 1873	July 26, 1873	Aug. 12, 1873	On duty as assistant at Wilmingt N. C.
Walter F. Crane	June 20, 1873	Aug. 16, 1873	Aug. 27, 1873	On duty as assistant at Boston, Ma
John G. Lynch	June 20, 1873	Aug. 2, 1873	Aug. 5, 1873	On duty as assistant at Shrevep La.
Oscar F. Dodge	June 20, 1873	Aug. 2, 1873		On duty at office of Chief Sig Officer.
Charles Howard	June 27, 1873	Aug. 30, 1873	Sept, 2, 1873	On duty as assistant at Detroit, Mi
Cyrus Luce	June 27, 1873		Sept. 13, 1873	On duty as assistant at Saint Lo Mo.
Charles A. Smith	June 27, 1873	Aug. 30, 1873	Sept. 2, 1873	On duty as assistant at Mobile, A
Edward W. Boutelle	July 1, 1873	Aug. 9, 1873	Aug. 12, 1873	On duty as assistant at Pike's Pe Colo.
John Kabernagle	July 5, 1873		Sept. 2, 1873	On duty as assistant at Philadelp Pa.
Alaric S. Embree	July 5, 1873		July 30, 1873	In arrest at Fort Whipple, Va.
Charles T. Greer	July 21, 1873	Sept. 27, 1873		Awaiting orders at Fort Whipple,
J. J. Weinberg	July 21, 1873	Sept. 13, 1873		Do.
John F. Fitzgerald	July 21, 1873		Sept. 12, 1873	On duty as assistant at Saint Lo Mo.
William H. Ray	July 21, 1873	Sept. 13, 1873		Awaiting orders at Fort Whipple,
W. E. Hutchinson	July 26, 1873	Sept. 27, 1873		Do.
H. W. Tibbetts	July 26, 1873			Dropped from instruction.
Charles M. Brown	July 26, 1873		Sept. 26, 1873	On duty as assistant at Portla Oreg.
Eugene DuVere	July 26, 1873	Sept. 27, 1873		Awaiting orders at Fort Whipple,
Charles V. Appel	July 26, 1873	Sept. 27, 1873	Sept. 29, 1873	On duty as assistant at New Orle La.
Lloyd Prather	Aug. 2, 1873		Aug. 13, 1873	On duty at Saint Louis, Mo.
Marion M. Sickler	Aug. 2, 1873	Sept. 27, 1873		Awaiting orders at Fort Whipple,
Sidney J. Bronson	Aug. 2, 1873			Still under instruction.
Pierson R. Murphey	Aug. 15, 1873			Do.
George H. Smith	Aug. 15, 1873			Do.
Ira W. Birt	Aug. 15, 1873			Do.
J. T. Minchin	Aug. 15, 1873			Do.
L. A. Welsh	Aug. 21, 1873			Do.
James H. Brice	Aug. 21, 1873			Do.
Robert Reeder	Aug. 21, 1873			Do.
C. A. Ray	Aug. 25, 1873			Do.
John Moll	Aug. 30, 1873			Do.
Samuel W. Naylor	Aug. 30, 1873			Do.
Hermann Voss	Aug. 30, 1873			Do.
George Feller	Aug. 30, 1873			Do.
Isaac R. Birt	Sept. 6, 1873			Do.
John W. A. Kempers	Aug. 30, 1873			On duty at office of Chief Sig Officer.
H. S. Montague	Sept. 11, 1873			Still under instruction.
Charles Mays	Sept. 11, 1873			Do.
Thomas Murray	Sept. 15, 1873			Do.
Rupert R. Rodgers	Sept. 15, 1873			Do.
Cyrus Cramer	Sept. 23, 1873			Do.

PAPER 5.

WAR DEPARTMENT, OFFICE OF THE CHIEF SIGNAL-OFFICER,
Washington, D. C., June 7, 1873

[Circular No. 17.]

This circular is published for the information of those desiring to enter the sign service, United States Army, with reference to its field duties, including field-sign and electric telegraph, as distinguished from the full duties of that service, which clude the observation and report of storms and display of cautionary signals, &c.

1. Entrance into this service in all cases is by enlistment as a private soldier in the Regular Army of the United States, the pay, quarters, allowances, and duties being, in the first instance, and unless changed after instruction, detail, or promotion, those of a private soldier in the signal-service, United States Army. All men enlisted are drilled in the use of arms and disciplined in the duties of soldiers. The term of service is five years, unless sooner discharged. The Secretary of War has power to grant discharges, which this office is authorized to promise when applied for on proper grounds and at times when no special injury to the service would result therefrom; but as a rule no application for discharge will be favorably entertained until after two years of faithful service, and not then, except as above specified. With the single exception that men enlisting for the signal-service will not be transferred to any other branch of the Army, no promise will be given which can alter or affect the usual terms of enlistment. The service, while strictly military, is also probationary, with opportunities for advancement, depending mainly on the good conduct and capacity of each individual.

Married men and those under twenty-one or over forty years of age are not enlisted. The standard height is five feet four inches and upward.

2. Applicants can present themselves in person to the officer in charge at Fort Whipple, Va., near Washington, D. C., or to the observer-sergeants of the signal-service at the following points, viz: New York, Philadelphia, Baltimore, Cincinnati, Saint Louis, Boston, Buffalo, Chicago, Cleveland, Detroit, Indianapolis, and Louisville, which sergeants are ordered to present proper applicants to the recruiting officers of the United States Army in those cities. *No promise or statement different from this circular, made by any one, is authorized, or will be allowed to affect the terms of enlistment of any recruit.* Recruits enlisted at Fort Whipple, or at the above-mentioned cities, are placed on duty in the first instance at Fort Whipple or at such other stations where their services may be made available. They will not be precluded from eventual advancement to the full duties of the signal-service, and promotion, in case they prove fit and worthy, but will not be considered as included, upon their enlistment, in the regulations made for those recruits who may have been enlisted with special reference to the full duties above referred to. They may, however, be subject to detail on any of the duties of the signal-service in the discretion of higher authority.

3. The pay and allowances of either a sergeant or private vary according to the character and place of the duties and the length of the service of each individual. The following table exhibits the average amount per month for five years, according to the present law:

Rank.	When at Fort Whipple, Va., or at a military post.	When on station.	When at this office.
Sergeants	$31 87	$74 68	$92 49
Privates	17 18	57 99	88 45

Of the above amounts $1 per month in the third year, $2 per month in the fourth year, and $3 per month in the fifth year, are retained, and will not be paid until final discharge after faithful service. An allowance for clothing, averaging $3.02 per month for sergeants and $2.98 for privates, is also included in the above, which, if clothing is not drawn in kind, is also retained until discharged. When at Fort Whipple, both sergeants and privates receive quarters and rations, and at all places are, when ill, provided with medical attendance and medicines.

4. Applications being frequently made for enlistment in this service, conditioned upon the applicant being placed upon some specified duty or stationed at a particular place, it is to be clearly understood that no such qualification of the contract of enlistment will be allowed or considered, the wants of the service, which cannot be known in advance, regulating all details of duty.

By order of the Chief Signal-Officer of the Army:

GARRICK MALLERY,

Captain and Brevet Lieut. Col. U. S. A., Acting Signal-Officer and Assistant.

PAPER 6.

WAR DEPARTMENT, OFFICE OF THE CHIEF SIGNAL-OFFICER,
Washington, D. C., July 1, 1873.

[Circular No. 18.]

This circular is published for the information of those desiring to enter the service of the United States with reference to the full duties of the signal-service, including not only field-signals and telegraphy, but also the observation and report of stor by telegraph and signal, and display of cautionary signals, for the benefit of comme and agriculture, under the joint resolution of Congress approved February 9, 1870, acts of Congress approved June 10, 1872, and March 3, 1873, and the authorizatio the Secretary of War, and for such other duties as may be required in connect therewith.

1. Entrance into this service in every case is by enlistment as a private soldie the Regular Army of the United States, the pay, quarters, allowances, and duties bei in the first instance, and unless changed after instruction, detail, or promotion, as h inafter explained, those of a private soldier in the signal-service, United States Ar All men enlisted are drilled in the use of arms and disciplined in the duties of soldi The term of service is five years, unless sooner discharged. The Secretary of War power to grant discharges, which this office is authorized to promise when applied on proper grounds, and at times when no special injury to the service would re therefrom; but as a rule no application for discharge will be favorably entertai until after two years of faithful service, and not then, except as above specified. W the single exception that men enlisting for the signal-service will not be transferre any other branch of the Army, no promise will be given which can alter or affect usual terms of enlistment. The service, while strictly military, is also probationa with opportunities for advancement, depending mainly on the good conduct and pacity of each individual, and it is intended to place competent men, who enlist w a view to promotion to the position of observer-sergeant, on duty where instruct can be obtained and opportunity for study afforded.

The Chief Signal-Officer, in his annual report for 1871 to the Secretary of War, r ommended that a commission in the Army be given each year to the sergeant v shall in that year be reported as most distinguished for fidelity and ability, and in e of the years 1872 and 1873 an enlisted man of the signal-service was promoted to b commissioned officer.

Married men and those under twenty-one or over forty years of age are not enlist The standard height is five feet four inches and upward.

2. Enlistments at this office are confined to candidates who have passed an exa nation prior to enlistment, before a board appointed by the Chief Signal-Officer, wh meets at this office every Thursday at noon, and before which they must appea their own expense. Testimonials as to good character and capacity, signed by pers known at this office, must be presented, together with an application in the handw ing of the candidate, (addressed to the Chief Signal-Officer of the Army,) stating age, past and present avocation, and residence. The examination will be chiefly rected to accurate spelling, legible handwriting, proficiency in arithmetic, with spe attention to decimal fractions, and the geography of the United States. After a vorable report from the above-mentioned board, and also a physical examination the surgeon, the candidate will be enlisted, assigned to the signal-service, and un detailed for some special duty connected with this office, will be ordered to Fort Wh ple, Va., near this city, where the signal-service detachment and school of instructio stationed, and will be placed at once under instruction to prepare for the duty of sistant to an observer on station; also performing the general duties of soldiers hours when not required for instruction. When reported by the instructor as qu fied, the enlisted man will, as the wants of the service require, be detailed on above-mentioned duty of assistant. The length of time between being ordered un instruction and being detailed as assistant varies with the capacity and conduct the individual, but has averaged about six weeks.

3. Men who do not present themselves at this office for the above-mentioned exa ination can apply in person to the officer in charge at Fort Whipple, Va., to the observer-sergeants of the signal-service at the following points, viz: N York, Philadelphia, Baltimore, Cincinnati, Saint Louis, Boston, Buffalo, Chica Cleveland, Detroit, Indianapolis, and Louisville, which sergeants are ordered present proper applicants to the recruiting officers of the United States Ar in those cities. *No promise or statement different from this circular, made any one, is authorized, or will be allowed to affect the terms of enlistment of any recr* Recruits enlisted at Fort Whipple, or at the above-mentioned cities, are placed duty, in the first instance, at Fort Whipple, as private soldiers of the signal-service tachment for at least two months, after which they have the privilege, their cond being good, to be examined, on their application, by the same board above alluded the examination being identical with that required of the civilian candidates prio enlistment, and on passing that examination they are ordered under instruction un the same circumstances as above explained in paragraph 2. The distinction is, t being enlisted in the above cities before examination by the board, they are transpo to Fort Whipple at the expense of the United States, also receiving rations *en route* commutation therefor, instead of presenting themselves at this office at their own pense; and also that they take the risk, if they should fail to pass the required exa ination, of remaining on the usual duty of soldiers of the signal-service detachme

nstead of being detailed as assistant to an observer, or on other duty requiring the mount of education exhibited by those passing the examination.

4. All soldiers of the signal-service, wherever enlisted, who have passed the above-escribed examination, and have been instructed and detailed on duty as assistant to n observer on station, or similar duty at this office, are required to perform such du-es satisfactorily for six months before promotion from private to sergeant. As a rule, uch men may, after the expiration of that time, be ordered to Fort Whipple as candi-ates for promotion, and after additional instruction, drill, and discipline in the duties f soldiers, are examined by a board of final examination, also appointed by the Chief ignal-Officer, and meeting at this office, but differing from the board of preliminary xamination before mentioned, both in its members and the character of examination, he latter being exclusively on the course of study and practice in reference to the pecial duties of the service with which the candidate has had the opportunity to be-ome familiar after his enlistment. They will also be examined by a board of officers, onvened at Fort Whipple, as to their proficiency in the military duties of a sergeant.)n passing these examinations the candidate will, as vacancies occur, be promoted to e sergeant, signal-service, United States Army.

5. The duties of an observer-sergeant on station, as also those of an assistant to an bserver, will be chiefly those pertaining to the observation, record, and proper publi-ation and report, at such times as may be required, of the state of the barometer, hermometer, hygrometer, rain-gauge, and other instruments, (instruction in the use f which will be given under the direction of this office,) and the report by telegraph r signal, at such times as indicated and to such places as may be designated by the hief Signal-Officer, of the observations as made, or such other information as may be equired—the telegraphic reports to be forwarded by the regular telegraphic operators, r in such manner as may be directed. The utmost precision will be required in ob-ervations and reports. The specification of these particular duties is not to exclude uch others connected therewith as may be necessary.

The object of this plan is to insure the correctness and regularity of reports by hav-ng them made under military control. It being desired to make this body of men es-ecially select, rigid examinations will be insisted upon.

All the duties will be performed strictly under the discipline of military law, all ersons in the military service being subject to trial and punishment for improper con-uct or neglect of duty under the Rules and Articles of War. The penalties for neg-ect of duty, bad conduct, &c., are dishonorable discharge, or such other punishment s a court-martial may direct, or as may be provided for by the customs of the ervice.

The United States is entitled to the whole time of the person enlisted; but the du-es required on station are of such a nature that, with care and diligence, some time etween the hours of reports, when no active duty is pressing, will generally be at the isposal of the observer, which may be devoted to reading or study. Most of those lready enlisted have had such purposes in view. No employment of this nature can, owever, be permitted to interfere, in any way, with that prompt and constant atten-on to duty which will be insisted upon.

6. The pay and allowances of both sergeant and private vary according to the char-cter and place of the duties and the length of the service of each individual. The fol-owing table exhibits the average per month for five years, according to the present aw:

Rank.	When at Fort Whipple, Va., or at a military post.	When on station.	When at this office.
ergeants	$34 44	$77 25	$95 06
rivates	19 62	60 43	90 89

Of the above amounts $1 per month in the third year, $2 per month in the fourth ear, and $3 per month in the fifth year are retained, and will not be paid until final ischarge after faithful service. An allowance for clothing, averaging $5.59 per month or sergeants and $5.42 for privates, is also included in the above, which, if clothing is ot drawn in kind, is also retained until discharge. When at Fort Whipple, both ser-eants and privates receive quarters and rations, and at all places are, when ill, provided ith medical attendance and medicines.

7. Applications being frequently made for enlistment in this service, conditioned pon the applicant being placed upon some specified duty or stationed at a particular lace, it is to be clearly understood that no such qualification of the contract of enlist-nent will be allowed or considered, the wants of the service, which cannot be known n advance, regulating all details of duty.

By order of the Chief Signal-Officer of the Army.

GARRICK MALLERY,

Captain First Infantry, Bvt. Lt. Col., U. S. A., Acting Signal-Officer and Assistant.

PAPER 7.

INSTRUCTIONS TO OBSERVER-SERGEANTS, SIGNAL SERVICE, U. S. A., DUTY AT STATIONS.

[General Orders No. 32.]

WAR DEPARTMENT, OFFICE OF THE CHIEF SIGNAL-OFFICER,
Washington, D. C., September 30, 1873

1. Observer-sergeants, signal service United States Army, on duty at stations, w strictly comply with the following instructions, (in place of those heretofore issued them from this office,) which will also be used as a text-book in all instruction giv to enlisted men at Fort Whipple, Va., or on station.

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By order of the Chief Signal-Officer of the Army.

GARRICK MALLERY,
Captain First Infantry, Bvt. Lt. Col., U. S. A., Acting Signal-Officer and Assistan

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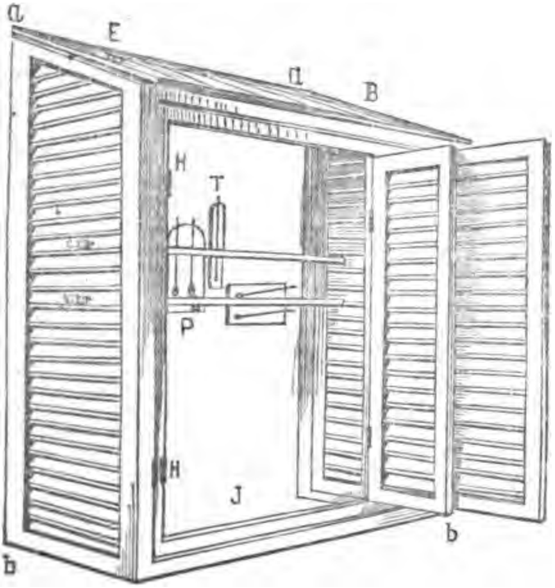
INSTRUCTIONS.

1. Each observer, upon arriving at his station, will immediately proceed to secure room suitable for office purposes and the storage of instruments and other Unit States property in his charge. This room must be in the immediate vicinity of t telegraph-office charged with the transmission and receipt of the weather reports, a should be in the upper story of a building and contain at least one window facing t north. In all cases he will endeavor to get permission to occupy the roof of this buil ing for the necessary exposure of his instruments, and, at stations specially designat by the Chief Signal-Officer, for the erection of an instrument-room, in accordance wi plans furnished by this office. A lease of this room for a period of one year, with t privilege of renewal on the part of this office, in accordance with the regular forms be furnished the observer on application to the property and disbursing officer, will made out and properly signed before any expense is incurred in fitting up the room putting up instruments. When such permission cannot be obtained, or a suitable ro found, and at all stations not designated as above, an instrument-shelter will be co structed substantially as follows:



Select a window fronting the north; remove the lattice-blinds, if there be any, a along the exterior jambs of the window place perpendicularly two pieces of lattic work, (a a,) projecting to a distance of from 20 to 24 inches from the panes. At h is distance, 10 or 12 inches from the panes, and at the height of the eye of the ob- ver, when in the chamber, pass from one end of the shelter to the other two small wooden ansverse bars, (c c,) each an inch broad, for the purpose of supporting the instru- ents. Upon the outer edge of the sides fasten, in the usual way, (b b,) the latticed inds which were removed from the jambs, or two others provided for the purpose. iese blinds will be hinged to the side-walls so as to be opened when necessary, and cured in the middle by an ordinary staple and hook. Ten inches outside of this ame-work an outer wall, also of lattice-work, will be placed with the front, opening the center in the same manner as the inner wall. The whole must be covered with small inclined roof of boards, (E B,) placed at least 15 or 20 inches above the in- rument. The lower part, (J,) or the base, may remain open, unless the shelter is ithin 10 feet of the ground, in which case the bottom will be covered with slats 2 ches wide, placed 1 inch apart. The instrument shelter will be painted with white ad. The building selected should be detached from other buildings, and where this nnot be had, should be higher than those surrounding it. Too much attention nnot be given to the proper setting up of the instruments and their protection from cal influences.

2. An observer, upon arriving at his station, will, as soon as practicable, put himself communication with the board of trade, chamber of commerce, board of under- riters, and such other bodies as may desire to co-operate with this office in its efforts make the service locally, as well as generally, useful. If meteorological committees ive not been appointed by any or all of these bodies, their appointment should be ged as a matter of special importance, and the committees requested to place them- lves in communication with the Chief Signal-Officer. He will also communicate with ch colleges, scientific associations, and other institutions of learning as may be cated at or near his station, and will explain to their officers and members the nature id object of his duties, and invite their co-operation. He must bear constantly in ind that it is expected he will use every effort in his power to render his office of the eatest public utility.

3. The office-furniture will be of the plainest kind, and consist only of such articles are absolutely necessary for the proper transaction of business. The room, furniture, id instruments must be kept neat and clean at all times, and always prepared for spection.

4. The regular reports from station ——— will commence with the morning report ———, and from and after that date three observations will be made daily, and trans- itted by telegraph, to ———, and four observations, at different hours, for transmission, eekly, to this office.

5. The observations for telegraphic transmission will be taken daily at —— a. m., — p. m., and —— p. m., (local time,) and after the proper corrections are made, will entered on Form 5, supplied by this office, and also in the daily record of observa- ons and the record of bulletins, and a weekly record of them on Form 4 will be sent this office. The instruments will be read in the following order:

1. Barometer. 2. Thermometer. 3. Hygrometer.
4. Anemometer. 5. Anemoscope. 6. Rain-gauge.

6. The readings of the different instruments must be entered as made in the original cord of observations and *not* copied in from a slip of paper. Observers will habitu- ly carry this book when making an observation, and enter the readings in *pencil*, as oted at the time. They will also use this book for making the proper corrections, as dicated by the marginal references. Pen and ink must *not* be used for entering any oservation or correction. The mid-day observations will be entered on the spare pages this book, using one column for each day properly dated and timed.

7. The reports will be handed by the observer in person to the operator charged with eir transmission, in the order and at the times named below, viz: Report No. 1, at a. m.; report No. 2, at — p. m.; report No. 3, at — p. m. The mid-day report, when nt by telegraph, will be filed as soon as practicable after the observation is made.

8. Observers must be at the telegraph-office, with the reports carefully and plainly ritten out *in duplicate*, ten minutes before the hours named above, in order that the erator may be notified in time to prepare for their transmission, and must obtain the gnature of the operator to *both* copies *of each report*, with the exact time of receipt by m. They will also furnish the manager of the office with a plainly written or printed st of stations (with their proper telegraphic numbers) from which reports are to be ceived at, and also of those to be sent from, his office, with the names of the stations which they are to be sent. If reports are to be transferred or selected for transfer at y station, the observer at that station must personally attend to such transfer or lection, unless prevented by sickness or other extraordinary cause. To provide gainst such an event, he must so arrange with the manager that the regular trans- ission of reports will not be interrupted by his absence.

9. The following is a list of stations, with their proper telegraphic numbers. Those

to be received at station No. —— are underlined in red ink, and any failure to receive them must be promptly reported to this office, with a statement of the probable cause of failure.

Station.	No.	Station.	No.
Cape Roziere, Canada	1	Davenport, Iowa	51
Chatham, N. B	2	Leavenworth, Kans	52
Santiago de Cuba	3	Cairo, Ill	53
Kingston, Jamaica	4	Cape May, N. J	54
Father Point, Canada	5	Galveston, Tex	55
Sydney, C. B	6	Montreal, Canada	56
San Juan, Porto Rico	7	Quebec, Canada	57
Bridgetown, Barbadoes	8	Toronto, Canada	58
Basse Terre, Guadeloupe	9	Punta Rassa, Fla	59
Plaister Cove, N. S	10	Wood's Hole, Mass	60
Saint John's N. B	11	Vicksburg, Miss	61
Portland, Me	12	Memphis, Tenn	62
Boston, Mass	13	Nashville, Tenn	63
New London, Conn	14	Louisville, Ky	64
New York City, N. Y	15	Cincinnati, Ohio	65
Albany, N. Y	16	Saint Louis, Mo	66
Philadelphia, Pa	17	Omaha, Nebr	67
Baltimore, Md	18	Cheyenne, Wyo	68
Washington, D. C	19	Santa Fé, N. Mex	69
Wilmington, N. C	20	Corinne, Utah	70
Charleston, S. C	21	Fort Benton, Mont	71
Savannah, Ga	22	Shreveport, La	72
Augusta, Ga	23	Jacksonville, Fla	73
Lake City, Fla	24	Portland, Oreg	74
Key West, Fla	25	San Diego, Cal	75
Montgomery, Ala	26	Denver, Colo	76
Mobile, Ala	27	Virginia City, Mont	77
New Orleans, La	28	Port Stanley, Canada	78
San Francisco, Cal	29	Port Dover, Canada	79
Norfolk, Va	30	Kingston, Canada	80
Oswego, N. Y	31	Saugeen, Canada	81
Rochester, N. Y	32	Breckinridge, Minn	82
Buffalo, N. Y	33	Fort Sully, Dak	83
Cleveland, Ohio	34	Indianola, Tex	84
Toledo, Ohio	35	Alpena, Mich	85
Detroit, Mich	36	Pembina, Dak	86
Chicago, Ill	37	La Crosse, Wis	87
Milwaukee, Wis	38	Fort Garry, Manitoba	88
Saint Paul, Minn	39	Halifax, N. S	89
Du Luth, Minn	40	Lexington, Ky	90
Pittsburgh, Pa	41	Wytheville, Va	91
Knoxville, Tenn	42	Morgantown, W. Va	92
Indianapolis, Ind	43	Fort Gibson, Ind. T	93
Lynchburgh, Va	44	Eastport, Me	94
Burlington, Vt	45	Yankton, Dak	95
Mount Washington, N. H	46	New Haven, Conn	96
Keokuk, Iowa	47	Erie, Pa	97
Grand Haven, Mich	48	Dubuque, Iowa	98
Escanaba, Mich	49	Pike's Peak, Colo	99
Marquette, Mich	50	Havana, Cuba	100

10. At each station an observation of the barometer will be taken daily at 12 m., Washington mean time, and if a change equal to, or greater than, fifteen hundredths of an inch has taken place since the regular morning telegraphic observation, the fact will be reported immediately by telegraph to the Chief Signal-Officer, with the direction of wind and state of weather and the velocity of the wind in miles per hour; the whole being sent in the same order in which they are given here, and in the regular cipher words. A regular weekly report of these mid-day observations will be made out on Form 4 and mailed to the central office with the other reports on this form.

In these special reports the barometer will be corrected, in the usual manner, for temperature, elevation, and instrumental error.

11. In addition to the midday observation and those made for telegraphic transmission, three others will be taken daily—at 7 a. m., 2 p. m., and 9 p. m., (local time,) respectively. These will be recorded upon Form 4 in the same manner as the telegraphic observations, but on a separate sheet, and a copy of them will be forwarded weekly to the office of the Chief Signal-Officer.

12. After delivering his own reports to the operator, each observer or an assistant designated by the observer will remain in the telegraph-office until they are sent to their proper destination, and until the reports from other stations intended for use at his station are received, or until assured that their receipt has been prevented by some cause beyond the control of the operator. The reports for station No. —— should be received by —— a. m., —— p. m., and —— m., respectively; and when they are de-

ayed beyond these hours, the facts should in all cases be promptly reported to this ffice by mail, with a statement of the cause of delay when known.

13. To avoid useless delay in getting out the bulletins, observers should arrange, whenever practicable, to have the use of a desk or table in or near the operating-room f the telegraph-office, in order that the reports may be translated and written out roperly as rapidly as received. Where permission to occupy the room for this purpose is granted by the manager, a small table will be furnished by this office for the se of the observer, whenever necessary.

14. The telegraph-offices at which the reports are received will be kept constantly upplied by the observers with Form 2, and in all cases the receiving operator will be equired to fill in this form with the name of station, *date*, and time that reports are eceived. Observers will in like manner fill up Form 5 before delivery.

15. *Reports must be made on Sundays at the regular hours, and delivered punctually at the elegraph-office.*

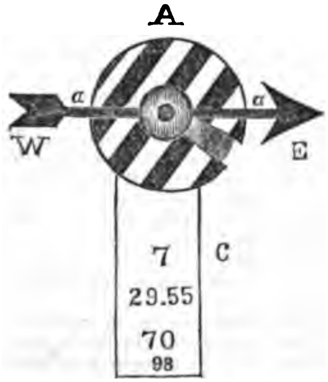
16. Immediately upon the receipt of the morning reports at any station the observer will translate them into ordinary language, and write them out clearly and plainly on the bulletin sheet, (Form 3,) filling in each column with the data named in its heading. The manifold issue of the bulletin will be used, and when completed, copies will be regularly posted in the rooms of the board of trade, chamber of commerce, and such other conspicuous places as may have been officially designated. Copies may also be furnished to private individuals when personal application is made for them at the observer's office, and their preparation does not interfere with the issue of those designed for public use, or with the ordinary and regular duties of the station. A copy will be furnished to each evening newspaper published at the station, and its regular publication secured, if possible. The local observations will invariably be entered in all bulletins, press-reports, and maps. At stations supplied with the manifold maps, their preparation follows the bulletins, and they will be printed as rapidly as practicable, and furnished to such parties as may be designated by this office, upon the recommendation of the observer in charge. The "War Department Weather Map" will then be hanged in accordance with the following key and instructions:

The index consists of an arrow, disk, and card, which show the direction and velocity f the wind, state of the weather, height of the barometer, and height of the thermometer, and relative humidity at the place on which they are affixed. The index will be hanged once daily, at 10 a. m., or as near that hour as is practicable. The arrow flies vith the wind.

A red disk indicates clear weather.
A blue disk indicates sky covered with clouds.
A ¼-blue disk indicates sky one-fourth covered with clouds.
A ½-blue disk indicates sky one-half covered with clouds.
A ¾-blue disk indicates sky three-fourths covered with clouds.
A black disk indicates rain.
A white and black barred disk indicates snow.

A silicate tag projecting below the disk, and held in position by the same screw that astens the arrow and disk, shows the velocity of the wind in miles per hour, the height f the barometer in inches and hundredths, and the height of the thermometer in degrees, Fahrenheit, and the percentage of humidity.

Example:

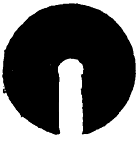


In using these tags a hole will be drilled through them near the upper end, by which hey will be fastened to the screws. When the symbols are changed, these tags need *not* be removed, as the lead-pencil writing may be erased by means of a small pi of sponge slightly moistened, taking care that the face of the map is not soiled.

With proper care these tags will thus last for a number of months.

The barred-disk A indicates snow, and the position of the arrow *a a* that the w is blowing from the west. The upper figure on the card, *c*, shows that the veloc with which the wind is blowing is seven miles per hour. The height of the baromet shown by the middle figures, is twenty-nine inches and fifty-five hundredths, the hei of the thermometer seventy degrees above zero, and the relative humidity, indica by the lower figures, is 98 per cent. When the temperature is below zero the mi sign should always be prefixed.

To facilitate changing the disks they are cut so as to slip on and off without rem ing the clamp, as shown in the following figure:



A calm is indicated by the omission of the arrow.

17. The afternoon reports will be received and translated in the same manner as th received in the morning, and will be bulletined at such places as will insure the great publicity. At stations where the morning papers go to press too early for the publi tion of the midnight report, they will be furnished with the afternoon issue.

18. The night reports, after translation, will be carefully and promptly written on Form 3 and furnished to such morning papers printed at the station as desire th for publication. Observers will endeavor to arrange with the publishers to have reports taken from the observer's office, but where this arrangement cannot be effect the observer, or his assistant, will deliver them in person at the different newspa offices.

19. At stations where the publishers of newspapers desire to have the three full repo of the previous day, they will be supplied by the observers on the manifold form iss by this office for that purpose. In such cases, observers will write up the morning a afternoon reports during the day and evening, so that there will be no delay in gett out the full report at midnight. In filling out the heading of the daily bulletin, publication, the time of the reports will be the exact local time of the place of pu cation, and will be so stated at all stations. In carrying out that part of their d which relates to the publication and distribution of reports, observers will be requi to act promptly and intelligently, as the usefulness of the reports depends wholly up the speed and accuracy with which they are laid before the public.

20. In furnishing weather-reports and items for publication, observers must conf themselves strictly to the instructions issued from this office, and will not, *under* *circumstances, publish, or cause to be published, forecasts or predictions of the weather.*

21. At each station a daily record will be kept of missing reports, showing the nan and official numbers of the stations, with the cause of their non-receipt when know and also such telegraphic errors as may come to the observer's knowledge. A co of this record on Form 19 will be forwarded weekly to this office in the same packa with the originals of Form 2.

22. A copy of the latest synopsis received by the observer or the Associated Pr at stations where it is regularly received, will be posted with each copy of the bulle that is publicly displayed. These copies will be made in manifold on Form 15 furnis by this office.

23. Observers will be held directly responsible for the correct publication of weather-reports at their respective stations, and must take every precaution to gu against errors, especially in the newspaper copies, where they are most frequen found. The accuracy of the published reports must be verified by daily perso inspection, and when errors are found they should be traced to their proper sour and measures taken to prevent their repetition as far as in the power of the observ The use of the regular official heading authorized by this office for all reports must insisted upon, and care taken that correct time of issue is given to both the bulle and synopsis.

24. When the wires of the telegraph company by which the reports are regula transmitted are known to be down or obstructed in such a manner as to prevent th prompt transmission, they will be sent, until such obstruction is removed, over wires of any other company possessing the necessary facilities, as provided for in spe instructions from this office.

25. In all reports and bulletins posted or furnished to the press for publication, due redit must be given to the telegraph company over whose wires they were received.

At all stations ordered to make river-reports, the depth of water above low-water ark will be observed at three o'clock (local time) each afternoon.

The sixth space in first line of Form 5 will be used for the depth in feet whenever e number exceeds eight, and the sixth space in second line for the odd inches.

Whenever the depth does not exceed 8 feet, the word "River" will be used to fill e space in the first line, and the whole depth given in the second line in inches.

In furnishing the reports to the press, and in filling up the bulletin, Form 3, the aily change will be given. This change will be obtained by taking the difference etween the current report and that of the preceding day.

27. Whenever any sudden or unusual change occurs in the condition of the river etween the regular hours of observation, a special series of observations will be made nd the observed depth will be reported in the usual manner at the next succeeding elegraphic report, and these special reports will be continued tri-daily (one at each elegraphic report) until the river resumes its normal condition, when the morning nd midnight specials will be discontinued.

28. In carrying out these instructions, observers will use the cipher-words in the olumn headed "Rise," when the river is rising at the date of report, and those in the olumn headed "Fall," when it is falling.

29. The observations for the morning and midnight special river-reports will be ade within an hour of the time of report if practicable.

Observers must exercise great care in making and recording the river-reports, in der that they can be relied upon as accurate by interested parties.

30. The amount of rain-fall (or melted snow) will be measured and reported at each the three telegraphic reports only.

INSTRUMENTS.

31. Each station will be supplied with the following instruments:

Two standard barometers, (Green's.)
Two standard thermometers, (Green's.)
One standard hygrometer, (Glaisher's model.)
One maximum thermometer.
One minimum thermometer.
One anemometer, (Robinson's,) with self-registering attachment.
One wind-vane.
One rain-gauge.
One clock.

Other instruments may be added from time to time as the necessity for their use be-mes apparent.

BAROMETER.

32. The barometers will in all cases be carefully compared with the standard at this fice before issue, and the amount of instrumental error will be sent with each when leaves this office.

The two barometers furnished each station will be carefully compared by the observer charge once a month, making a series of comparative readings of not less than venty in number, which will be recorded in full in the daily journal as soon as made. making out the monthly abstract of the journal these readings will be embodied in e instrumental report; they must not be corrected for elevation, but for temperature d instrumental error only.

No change of instrumental error will be made by any observer without direct thority from this office.

The barometer should be placed in a room of a temperature as uniform as possible, t heated, nor too much exposed to the sun. It should be suspended at the height of e eye, near a window, in such a manner as to be lighted perfectly without exposure ther to the direct rays of the sun or to the currents of air which are always found at e window-casings and doors. To protect the instrument from external injuries, from st, and from the direct radiation of warm bodies or the currents of air from the indow, observers will fasten the wooden case in which it is carried firmly against the all in a vertical position near the window, in such a manner that the cover will open a direction parallel to the panes. An opening large enough to admit the tube of the rometer will be cut in the upper end of the box; and directly above this, at the dis-nce of one inch, a strong hook will be driven into the wall. This hook should extend o or three inches beyond the box, and upon it the instrument will be suspended. hen not in use the cover will be closed; but when an observation is to be taken it ll be opened, and the instrument drawn out on the hook, clear of the box, and in

the full light of the window. After the observation is made the barometer will
slipped back into the box.

33. All readings of the barometer taken for telegraphic transmission will be correct
by the observer making the observation, for instrumental error, for temperature, an
for elevation, before they are sent from his station. In correcting for temperature, th
reading of the attached thermometer will be used, while in correcting for elevation th
temperature used will be that of the exposed or open-air thermometer.

In correcting for elevation, the height of the surface of the mercury in the cister
of the barometer above the ground must be added, in all cases, to the height of th
station above sea-level, as in the following example, viz: Suppose height of statio
above sea-level to be 670 feet; height of mercury (surface) in cistern to be 17 fe
above the ground; then the elevation to be corrected for would be 687 feet.

In correcting for temperature, Table XVII, pages 66 to 71, Paper C, of Guyot's table
will be used; and for elevation, Table XIX, page 92, Paper D, of the same book, wh
special tables are not prepared under the direction of this office.

34. In transporting a barometer, even across a room, it should be screwed up an
carried with its cistern uppermost. For traveling, it is provided with a wooden cas
On steamboats or railroads, it should be hung up by a hook in the state-room or ca
and the lower end firmly strapped to the side of the room or car to prevent jarrin
In wheeled vehicles, it should be carried by hand, supported by a strap over th
shoulder, or held upright between the legs; but it should not be allowed to rest on th
floor of the carriage, for a sudden jolt might break the tube. If carried on horsebac
it should be strapped over the shoulders of the rider, where it is not likely to be i
jured, unless the animal is subject to a sudden change of gait. When about to be use
it should be taken from its case, and, while screwed up, gently inverted and hung u
when it can be unscrewed. While it has its cistern uppermost, the tube is full—is o
solid mass of metal and glass—and not easily injured, but when hung up a sudden jo
might send a bubble of air into the vacuum at the upper end of the tube, and the i
strument would be useless until repaired. Observers must never *swing* the baromet
or endeavor to force the mercury against the top of the tube without first screwing
the large adjusting screw at the base of the cistern.

If the cistern should become dirty, it can be cleaned with safety, and withou
changing, in the slightest degree, the zero of the instrument. Everything used in th
operation must be clean and dry. Blowing upon any of the parts must be avoided,
the moisture from the breath is injurious.

The instrument being placed upright, the cistern uppermost, unscrew and take
the brass casing which incloses the wooden and leathern part of the cistern. Th
wooden part (which has the grain crosswise, and therefore is not air-tight) is made
two pieces, fastened together by four screws and four brass pieces, each in the form of
half of a circular ring. It will be necessary to take out two of these screws and loos
the other two, when the brass pieces can be taken off. The upper wooden piece,
which the bag is attached, can then be lifted off, and the mercury will be exposed.
then inclining the instrument a little, a portion of the mercury in the cistern may
poured out in a clean vessel at hand to receive it, when the end of the tube will
uncovered. This is to be closed by the *gloved hand*, when the instrument can be i
verted, the cistern emptied, and the tube brought again to its upright position. Gre
care must be taken not to permit any mercury to pass out of the tube. The long scre
which fasten the glass portion of the cistern to the other parts can then be taken o
the various parts wiped with a clean cloth or handkerchief, and restored to the
former positions. The mercury which had been taken out of the cistern must now
cleaned, or it must be replaced by other that is clean and pure. If the old mercury
merely dusty, or dimmed by a film of oxide, the cleaning may be effected by strainin
it through chamois-leather, or through a funnel with a capillary hole at the end of
size to admit of the passage of but a small thread of the metal. Such a funnel is co
veniently made of letter-paper. The dust will adhere to the skin or paper, and th
filtered mercury will present a clean and bright appearance. At stations whe
muriatic acid can be procured, the mercury may be easily and quickly cleaned by mi
ing about two ounces of the acid with it in a small vessel or cup and then pourin
into the vessel clear water until it overflows and carries off all the impurities. Wh
sufficiently pure the water will be poured off and the mercury heated over a gas
lamp light until all remaining moisture is expelled. If chemically impure, it shou
be rejected, and fresh, clean mercury used. With such clean mercury the ciste
should be filled as nearly full as possible, the wooden portions put together and s
curely fastened by the screws and clamps, the brass casing screwed on, and the scre
at its end screwed up. The instrument can then be hung up and re-adjusted. T
tube and its contents having been undisturbed, the instrument should read the sa
as before. If a little mercury has been lost during the operation, and there is none
hand to replace it, no serious harm has been done; but if much is lost, the open end
the tube may become exposed in inverting the instrument, in which case air m
enter. To guard against this error, a little fresh mercury will be added.

Station barometers will not be cleaned unless ordered by this office, or by an inspectng officer, or when such action appears to be absolutely necessary by the presence of ir in the tube. In any case the fact will be promptly reported to this office, stating he number of the instrument so cleaned, with date, and result of the operation.

35. Each observer upon establishing a new station will, as soon as he is furnished vith the correct elevation of his barometer above sea-level, prepare a table for reucing the barometrical observations to that level, in accordance with the following ormula:

Formula.

(Guyot's tables, Paper D, page 88.)

$$c = \frac{f}{N} \times \frac{h'}{h}$$

, is the correction required; *f*, the elevation of the station; *N*, the factor from the able on page 92; *h'*, the reading of the barometer corrected for temperature; and *h*, he normal height of the barometer at sea-level, which may be assumed to be 30 inches or all stations.

For all observations *above* 30.20 and below 29.80 the full formula will be used; but etween those numbers the first number only, $c = \frac{f}{N}$ need be used.

36. The following-named stations having been furnished with a constant correction, re excepted from the provisions of the foregoing paragraph:

Mount Washington, N. H.
Cheyenne, Wyoming Ter.
Denver, Colo.
Santa Fe, N. Mex.
Corinne, Utah.
Virginia City, Mont.
Fort Benton, Mont.
Pike's Peak, Colo.

37. This table will be made to cover the range of the barometer from 28.80 to 30.80, nd will give a correction for every five-hundredths of an inch, and the full formula iven in paragraph 1 will be used in its preparation. The table must be forwarded to his office for revision and approval before it is adopted by the observer.

THERMOMETER.

38. The thermometer should be hung in the instrument-shelter in such a manner hat it will be always in the shade, and at least one foot from the wall of the building o which the shelter is attached, where the Smithsonian form of shelter is used. It nust be protected against the light reflected from surrounding objects, and from rain, now, and hail. The instrument must be placed exactly perpendicular, the middle of he scale being at the height of the eye in order to prevent error in reading. The eadings should be made at all times, and especially in the winter, *through the panes*, vithout opening the window, when the shelter is built out from a window. When the helter is built upon a roof, great care must be exercised in making the readings in rder to prevent the instrument from being affected by the heat of the body or of the antern at night. The observation must be made as rapidly as is consistent with ccuracy.

HYGROMETER.

39. The hygrometer will be placed in the same shelter as the thermometer, and at a listance of one foot from it. The cistern will be kept supplied with pure water at all imes when the temperature of the air is above the freezing point, and the cover of the vet bulb will be changed every month, and the bulb carefully cleaned. The cover may e washed as often as necessary, without removal, by means of a jet of clean water rom a small syringe.

When the temperature of the air is below the freezing point the water will be mptied from the cistern, and in making an observation the wet bulb will be moistned with cold water, and the instant the mercury has reached its minimum its height vill be noted. Alcohol must not be used.

The relative humidity of the air will be obtained from Table VII, page 46, of Guyot's Tables, when special tables are not furnished from this office.

Especial care must be taken to keep the tubes of the hygrometer clean, and the wet ulb properly moistened, and to make the observations and deductions accurately, as the humidity of the air forms an important element in all calculations of atmosphe changes.

Whenever the dry bulb of the hygrometer is observed to show a higher temperat than the exposed thermometer under similar exposure, the observer will cut a circu opening, about three inches in diameter, in the board to which the dry and wet bu are attached, and directly behind the bulbs.

MAXIMUM AND MINIMUM THERMOMETERS.

40. The board which accompanies these instruments will be securely fastened w screws, in a horizontal position, upon the side of the instrument-shelter, or obser tory, near the hygrometer and exposed thermometer.

The brass support for the minimum will be screwed into the upper part of the bo and the holes so arranged as to slightly incline the left end of the support.

The top of the thermometer will be fastened by the small brass screw upon the s port, while the lower end will be dropped into the notch to the left.

For the support of the maximum thermometer the long brass pin with a nut will screwed into the board, in the hole to the extreme right. The nut will be taken and the pin slipped through the hole in the upper end of the instrument, which will securely fastened by replacing the nut and securing it tightly. The plain brass pi then inserted in the hole at the left of the board, and the thermometer placed upo so as to incline slightly in that direction.

The end of the pin to which the maximum is attached must be occasionally oiled prevent friction.

After unpacking the minimum it must be carefully compared with the exposed th mometer, and if an air-speck is found in the column the bulb will be immersed warm water until all the air-bubbles disappear in the space at the top of the tube, *gr care being taken not to break the bulb by heating it too suddenly.*

After fastening the top of the minimum upon the support, the lower end of the strument will be raised until the top of the small index touches the top of the colu of spirit.

The instrument is read by observing the number of degrees upon the scale where top of the index rests. After taking a reading, the bulb or lower end of the ther meter, should be elevated until the index comes down to the temperature of the at the time of the observation, and the instrument will then be dropped into the no at the left of the support, as before.

The maximum is read by observing the number of degrees upon the scale at the of the column of mercury.

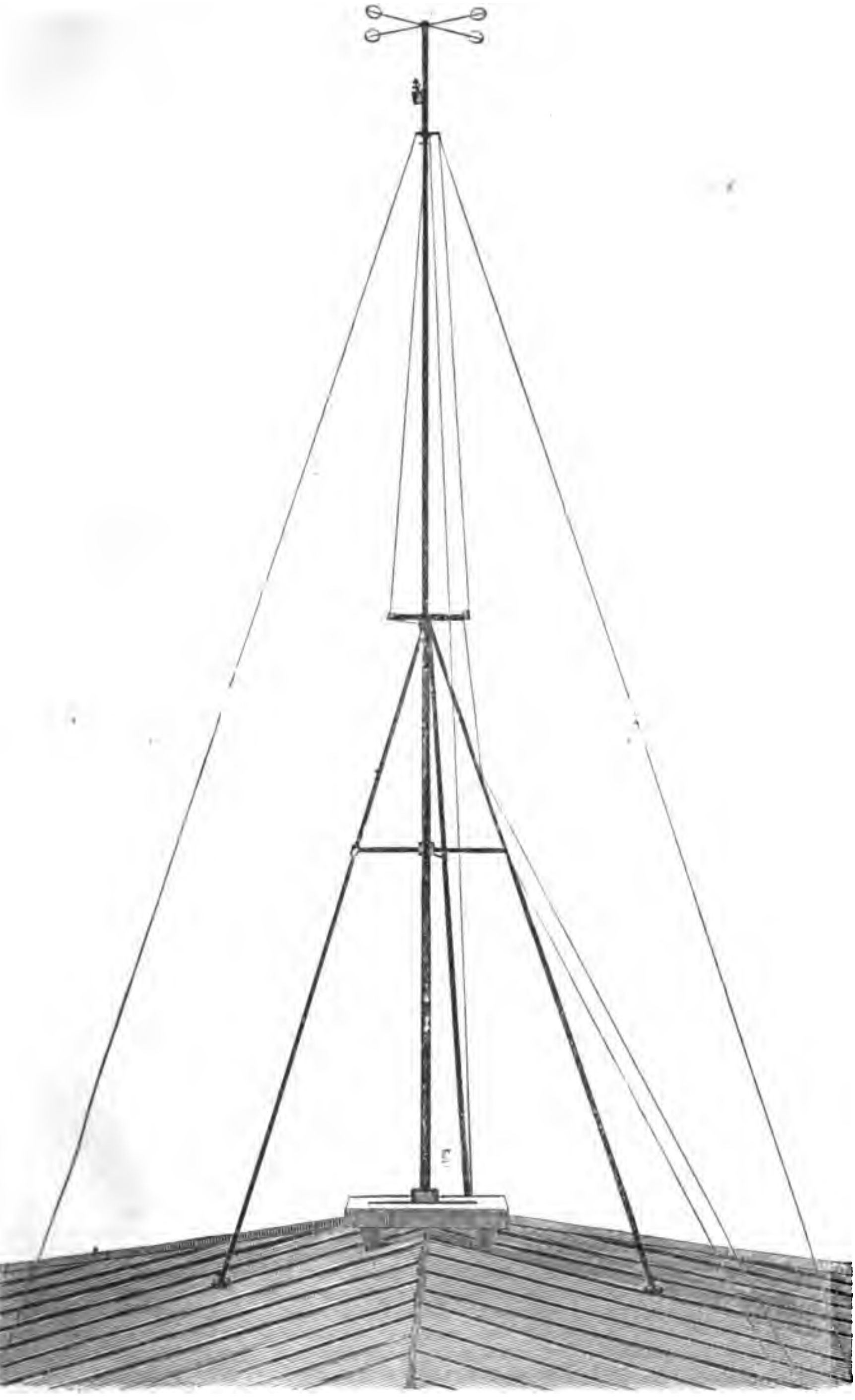
After taking a reading the observer will remove the pin to the left and then t hold of the thermometer, about three inches from the top, and spin it around seve times, or until the top of the column is brought down to the temperature of the ai the time of observation. Care must be taken not to touch the bulb, and also that nut is screwed up sufficiently tight to prevent the instrument from striking against side of the board to which it is fastened. After adjustment, gradually raise the inst ment to a horizontal position, and insert the pin as before.

Care should be taken in elevating the thermometer not to raise the bulb too high the column of mercury would then run to the upper end of the tube.

The observations upon these instruments will be made at the 11.35 p. m. report, a recorded upon Form 4, in the proper column.

ANEMOMETER.

41. The anemometer will be fixed in a vertical position upon the telescopic rod, when this has not been furnished, a post of sufficient height to bring the dial on a le with the eye of the observer, and must be in an exposed situation, so as to receive full force of the wind; when possible, this post should be framed into the roof, to stea it and prevent the instrument from vibrating; but when this cannot be done, it sho be framed at the bottom into two pieces of scantling, not less than three feet in leng that cross each other at right angles, and which can be nailed fast to the roof or pl form upon which the instrument is placed. Short braces can be added when necess to insure steadiness. The outer dial of the instrument is graduated in miles and ten of miles—the figures 1, 2, 3, &c., indicating miles, and the subdivisions tenths. O complete revolution of this dial is equivalent to ten miles of wind, and carries inner dial forward one subdivision. This inner dial registers up to 990 mi and will not be used in making the ordinary observations, but observers will ass themselves, by making a daily comparative reading, that the record of the dials a that of the cylinder read alike at the time of changing the record-sheets on the s registering attachment at mid-day. When a discrepancy is found to exist betw the two records, the anemometer will be carefully examined as to the condition of



Telescopic rod and anemometer.

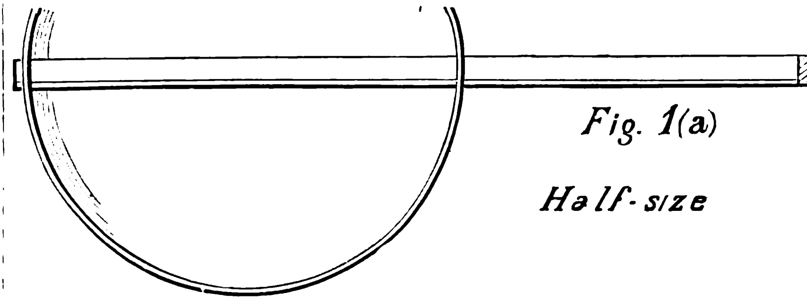


Fig. 1(a)

Half-size

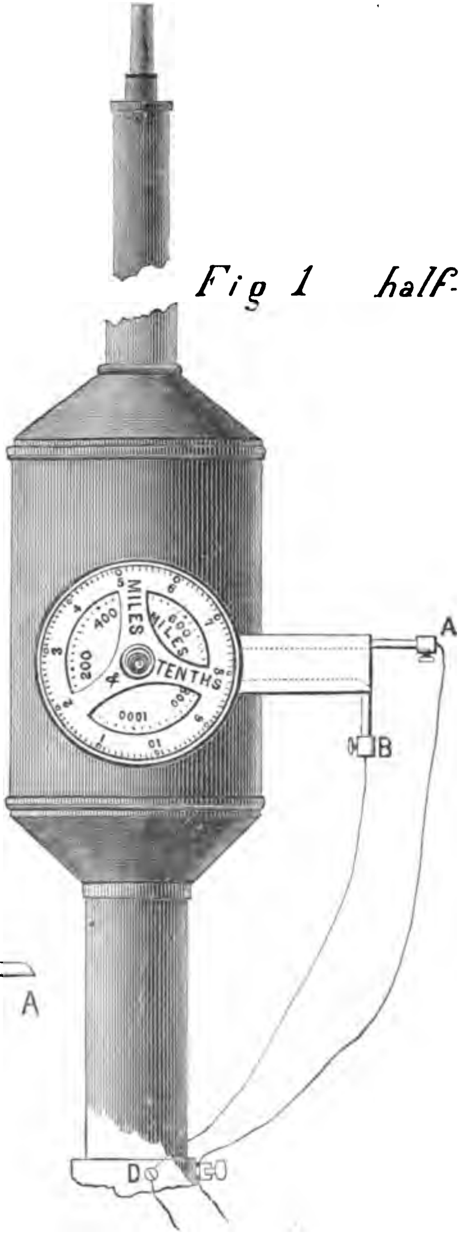
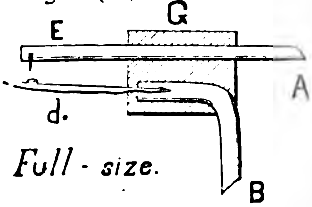


Fig 1 half-si

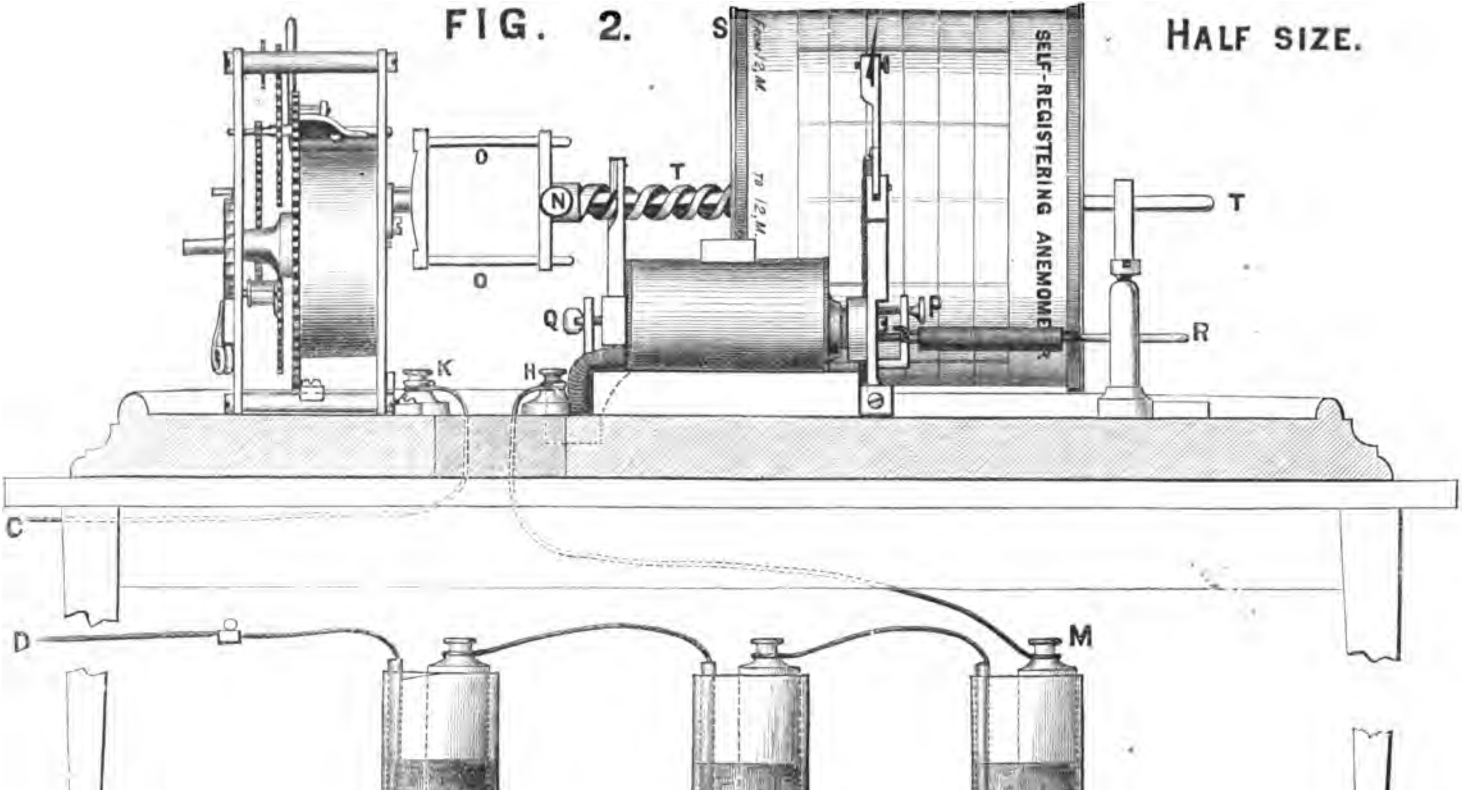
Fig 1(b)



Full-size.

FIG. 2.

HALF SIZE.



lial-pegs, or contact-pins, (which should always be perfectly straight,) and the con-
act-springs. The latter are liable to become corroded by the action of the electric
park or moisture, and must be kept clean.

42. To obtain the velocity of the wind for the regular observations when the self-
egistering attachment is out of order, two readings of the outer dial must be taken,
vith an interval of five minutes between them, and the *difference* between these read-
ngs will be the distance in tenths of miles traveled by the wind in that interval.
This, multiplied by twelve and divided by ten, will give the proximate velocity in
niles per hour. Example: suppose the index of the outer dial to be at 3 when the
irst reading is taken, and at 3.6 five minutes after, the difference, 6, is the distance
raveled in that time; and this, multiplied by twelve and divided by ten, gives a ve-
ocity of seven and two-tenths miles per hour. Whole numbers only will be used in
xpressing the velocity. When the decimal is greater than five-tenths, the unit's
igure will be increased l one; when five or less it will be thrown out. The whole
listance traveled by the wind in any twenty-four hours, provided it does not exceed
one thousand miles, may be obtained from the inner dial by a double observation,
naking the interval twenty-four hours instead of five minutes, and reading the result
lirectly from the dial, without calculation as above described for observations from
he outer dial, and will be entered on both copies of Form 4.

43. The following directions for setting up and the general management of the elec-
ric self-recording anemometer attachment adopted by this office will be observed at
ll stations supplied with the apparatus.

Near the top of the post on which the anemometer is fixed, place two screws, "c"
nd "d," (Fig. 1,) to each of these screws fasten the wires separately, (the insulated
vire to one, and the naked wire to the other,) leaving just sufficient of the upper end
f each wire to reach to the outside ends of the contact-bars "a" and "b," to which
ecurely fasten with the binding screws, taking great care not to loosen the insulating
ttachment "g." Then pass the lower ends of the wire down the post, over the roof,
nd down the side of the house (securing so the wind will not sway them) to the top
f the office-window, pass them in through two small holes (where the sash and shut-
ers will not injure them) and down the inside. In crossing the roof it is well to
asten them between two wooden strips, one on top of the other. One wire should
hen go to the screw-cup "h" (Fig. II) and the other to one pole of the battery at "i,"
hen from the other pole, "m," of the battery run a wire to the screw-cup "k," when
he circuit is completed and the armature will be closed once for each mile the wind
ravels.

Particular care must be taken that all of the connections are tight.

For putting on the paper.—Place the cylinder "s" on a table in front, with the screw
'r" to the left hand, place the paper on the cylinder with the top of it from the screw.
.et the line marked 12 m. (noon) come on the line marked on the cylinder, and place
, small rubber-band on each end. The lines on each end of the paper will then exactly
oincide.

Place the cylinder "s" in its position, so that the end on which there is no screw "t"
vill be close up to the post on which it rests. Slide the small sliding bar "n" on the
orizontal bars "o" "o," until it fits on the ends of the screw axle "r;" then revolve
he cylinder until the pencil rests on the end of the upper line marked 12 m., and
ighten the thumb-screw "n."

To regulate the length of the mark, first move the armature set-screw "p" until the
oint of the pencil rests on the upper line marked 12 m., then (after loosening the set-
crew which holds down the coils) move the magnet by means of the set-screw "q"
ntil the pencil-mark is a little less than one-eighth of an inch long. *The mark should*
ever exceed one-eighth of an inch.

Care must be taken in adjusting the armature spring, so that it will not be too
trong for the magnet, and still strong enough to draw back the pencil in a straight
ine.

The pencils should be kept pointed enough to give a clear, distinct mark.

The clock should be wound every day when the record is changed.

The record should be changed daily at 12 o'clock, noon.

At stations furnished with this self-recording apparatus, the hourly velocity of the
vind will be deduced from the record of the 15 minutes (multiplied by four) immedi-
tely preceding the time of observation.

The screw posts, or, in the old style of anemometer, the connecting-bars, must be
ept bright where they form connection with the conducting wires, to prevent resist-
nce to the passage of the current.

Especial attention will be given to the large dial-screw, and when found loosened it
vill at once be tightened, but care must be taken that it is not screwed up tight
nough to interfere with the free motion of the dials.

The anemometer will be kept well oiled, so that there will be no friction and conse-
uent wear of the wheel-works.

The instrument must not be taken apart unnecessarily, and those having the new style of contacts will be manipulated with especial care.

Observers will familiarize themselves with the construction of the several parts of the anemometer, in order that they may be able to locate faults whenever the instrument is out of order.

BATTERY FOR ANEMOMETER.

44. The field-battery in use at the various stations of observation differs slightly from the ordinary form of Daniells' battery used on telegraph lines, in the manner of construction, the glass jar of the latter being dispensed with, and the negative (copper) element used as the containing vessel instead. The following directions for setting up and using this form of battery will be observed:

1. In putting the battery together for use, place the porous cup inside the copper vessel, and the star-shaped zinc element inside the porous cup.

2. Fill the copper vessel with a strong solution of sulphate of copper (preparing this liquid in another vessel by dissolving about half a pound of crystals of the sulphate in a quart of pure water) to within one inch of the top: *crystals of the sulphate must never be plunged in the copper vessel, neither must sulphuric acid be used to strengthen the battery,* as by so doing the copper vessel will be rapidly destroyed. The porous cup is also filled with pure water to within one inch of its top.

3. After all the cells are filled in this manner, connect the copper (positive) pole of one cup with the zinc (negative) pole of the next one by short pieces of insulated copper wire, using the copper clamps for attaching the ends of the wires to the zincs, and the fixed binding-screws for attaching them to the coppers. The main wires through which the circuit is formed will be attached to the copper and zinc elements of the outside or end cups, respectively.

4. A battery carefully put up in this manner should work with but slight diminution of force, for at least fourteen days, at the end of which time the porous cups will be taken out, emptied, washed thoroughly, and all pure copper on their outer sides removed, and will then be refilled with pure water. Care must be taken to avoid disturbing the paraffine at the bottom of the cups, as it is used there to prevent contact between the zinc and copper elements. The zincs will also be thoroughly cleaned by means of the battery-brush provided for that purpose. When properly cleaned they should present a comparatively bright surface.

5. The liquid in the copper vessels will not be changed as often as the water in the porous cups, but only when it loses its dark-blue color. It will be stirred daily, in order to keep it of equal strength above and below, as the sulphate held in solution has a tendency to settle to the bottom on account of its greater specific gravity, and thereby localizing its action.

6. The binding-screws and the ends of the small connecting wires must be kept scrupulously clean to insure good connections, and the copper vessels kept at least one inch apart to prevent contact. The cells should rest on a *painted* wooden base to insulate them from each other and from the earth, and care must be taken to prevent any escape of liquid from the several cells by which a connection might be formed between them.

7. Whenever practicable, observers will purchase their supply of sulphate of copper at the station where it is to be used; where this cannot be done, it will be furnished from this office.

8. The copper vessels will be kept properly painted on the outside.

45. DIRECTIONS FOR GIBBON'S ELECTRICAL RECORDING ANEMOMETER AND ANEMOSCOPE.

Setting up anemoscope.

1st. From the top of the large wind-vane remove the weather-cap, which is just above the friction-rollers.

2d. Immediately beneath the friction-rollers, and close up under the circular plate upon which the rollers run, place the bisected wooden ring *a a*, Fig. A, and *a′ a′*, Fig. —, on which are fastened four pieces of brass *h* and *h′*, each one-eighth of the circumference of the ring.

3d. Fasten this ring by means of the iron clamp *b* and screw *c*. If necessary a band of metal, leather, or rubber must be placed inside to make the clamp fit.

4th. This ring with one of the one-eighth brass sections *h* must be placed so that one of the sections must be directly opposite the north, and so the opposite halves of the ring exactly meet.

5th. At the point where the arm *d e*, which holds the friction contact *f*, is placed, file the upright shaft *m*, which holds the vane, until it is bright.

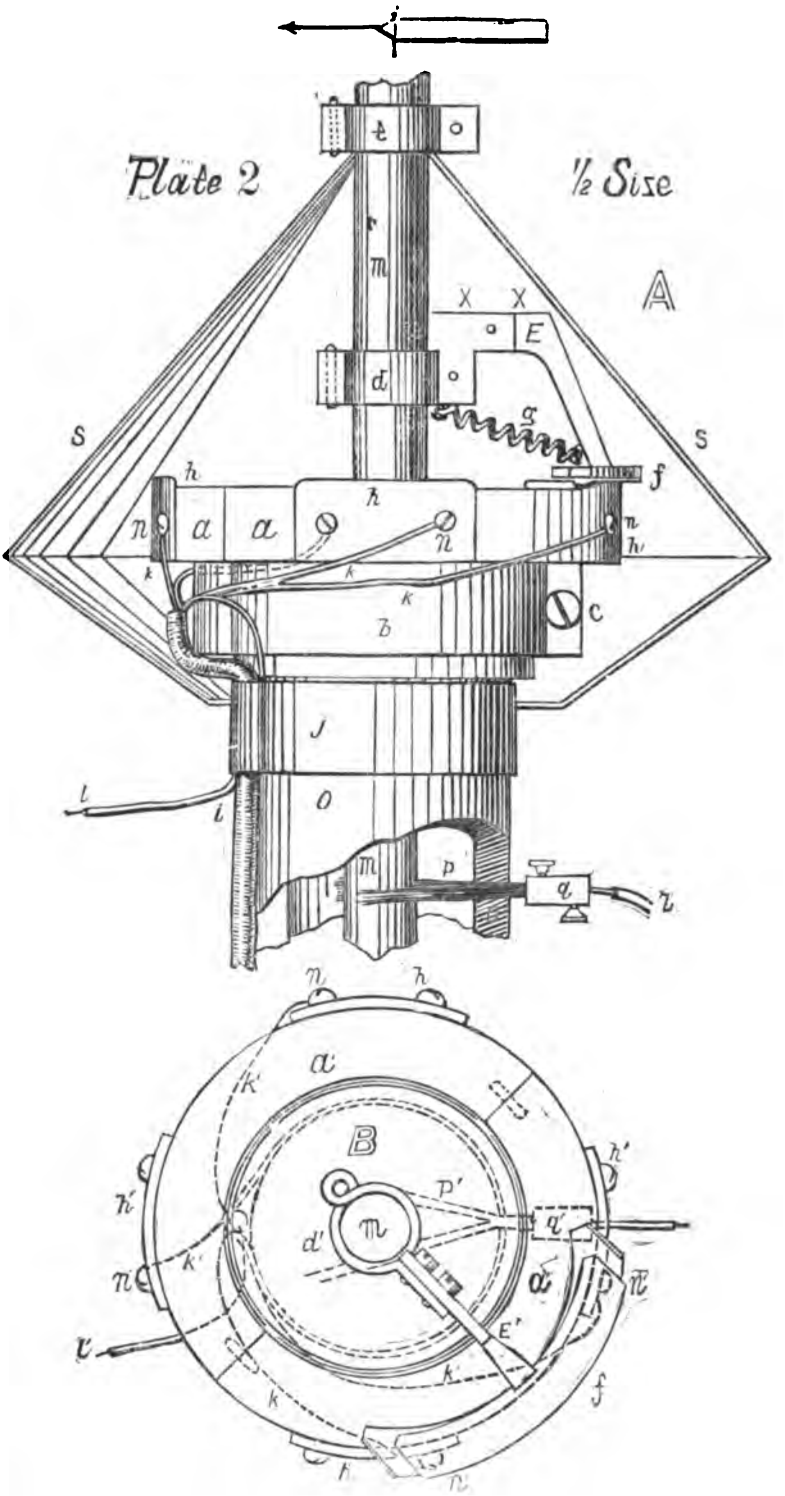
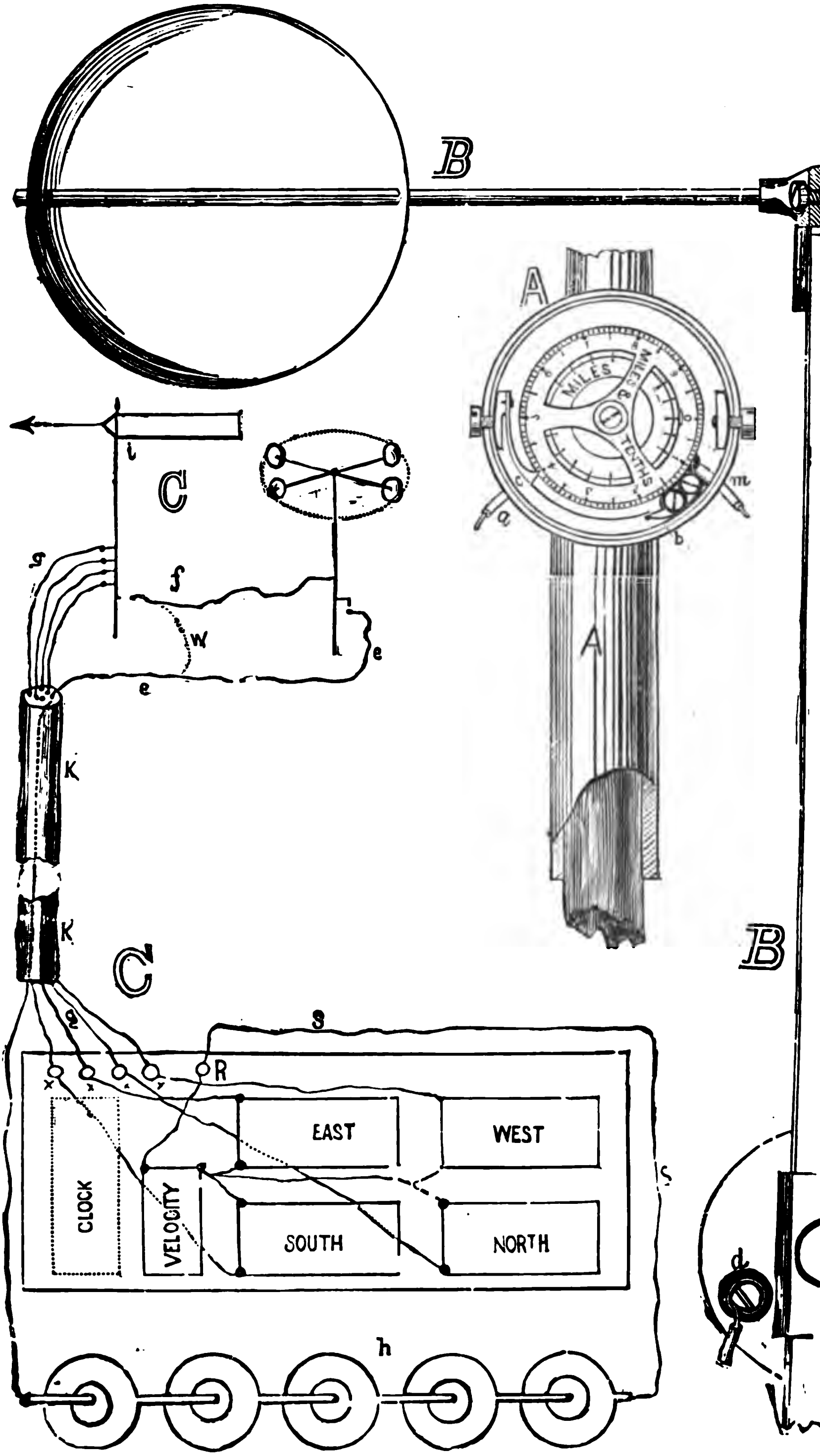
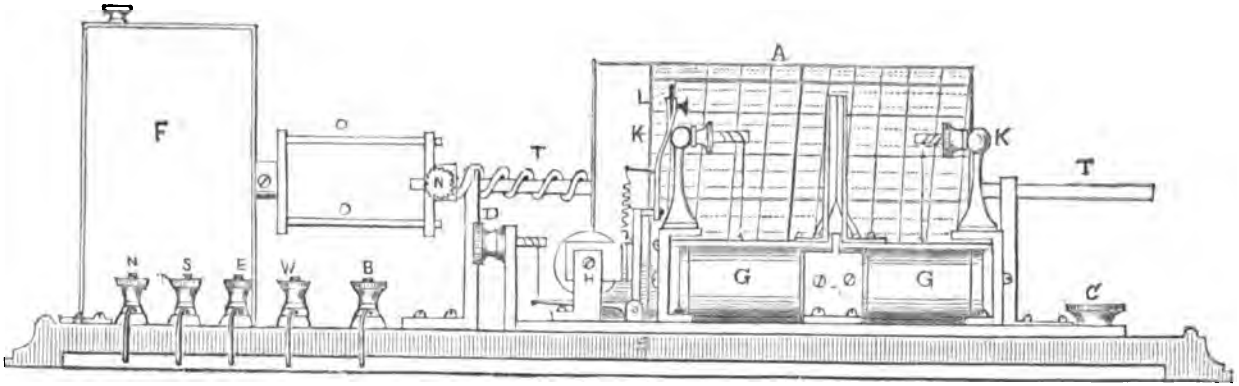


Plate 2

½ Size


B
A
MILES
MILES & TENTHS
a
b
c
m
A
C
i
g
f
W
e
e
K
K
C
S
R
EAST
WEST
CLOCK
VELOCITY
SOUTH
NORTH
h
d
B



Gibbon's electrical recording anemometer and anemoscope.

th. Fasten the friction contact *d, e, f,* to the shaft *m,* so that the parts *x x* will be level, the friction surface *f* impinges fairly upon the brass pieces *h, h, h, h.*

th. Take the five-wire cable *i,* and separate about a foot at one end. At the point separation, wrap the outside covering with all the wires tightly together; clean l the ends of each wire; place the end of the cable where the outside covering is noved with the top one inch below the wooden ring *a a,* and tie it there tem- arily.

th. Carry one end of each of these wires *k, k, k, k* to their respective screws *n, n, n, n,* them off to the right length, and fasten them by the screws to the brass plates.

th. The fifth wire is turned back down the cable, and the end left hanging loose, be afterward connected with the Robinson anemometer.)

0th. A piece of heavy tin or zinc *j* will be wrapped around the cable *i,* and 2-inch e *o* to prevent the cover *s* from rubbing or cutting the cable.

1th. Place the cover *s s* over all the contact, and fasten with the clamp *t.*

2th. At some point "*o*" in the 2-inch tube *o,* (the support of the vane,) drill a hole ut ½ inch in diameter, into which drive a bunch of small wire "P," so that it will oinge upon the shaft *m* to make a good contact, and place a binding screw "*q*" n it.

3th. From this binding screw, run a naked wire to the binding screw, which is not ulated, on the Robinson anemometer. (See "*o,*" Plate 2.)

4th. Carry the cable from here to the electric recorder by the shortest or best route, ing particular care not to turn abrupt corners, and protecting the cable at such nts by wrapping; pass it into the room through a hole, and not where it would be ured by the window.

5th. After getting into the room the wires should be tested for finding the proper nts of the compass; to do this, (before putting the cable up,) it should be tested, and wires numbered 1, 2, 3, 4, and 5 at both ends.

. Attach the anemometer wire *e,* Fig. C, to one pole of the battery by splicing h another piece of wire.

. Carry another wire to the binding post, R.

. Attach a wire from *e* to *f,* shown by the dotted line in Plate I, Fig. C.

. Have some person revolve the large vane, holding it long enough on each point the compass to enable the person at the instrument to touch each wire to either ding post, and when the one through which the current flows is found, fasten it to proper binding post. (The posts are marked N, S, E, W, and R, the latter going to velocity magnet and to the battery.)

6th. Remove the wire *w* and make the connections with the Robinson anemome- by carrying the wire *l,* Plate 2, Fig. A, and "*e,*" Plate I, Fig. C, to the insulated bind- screw on the anemometer *d,* Plate I, Fig. B, and "*m,*" Fig. A.

7th. Run a naked wire from the binding screw "*q,*" Plate 2, Fig. A, to the remain- binding screw on the Robinson anemometer. This wire should be fastened to the ts of the vane and anemometer and not direct to the binding screws, as there would danger of pulling them out.

DIRECTIONS FOR CARE OF INSTRUMENT-PLATE.

The velocity and direction are given simultaneously, the velocity once every mile, l the anemometer closing the circuit for the direction.

FOR PUTTING ON THE PAPER.

Place the cylinder on the table with the screw "*t*" to the left hand, place the paper the cylinder with the top of it from the screw, let the line marked 12 m. (noon) ne on the line marked on the cylinder and place a small rubber-band on each end. e lines on each end of the paper will then exactly coincide.

Place the cylinder A in its position so that the top end will be close up to the post which it rests; slide the small sliding bar N on the horizontal bars *o o,* until it fits the end of the cylinder axle I I; then revolve the cylinder until the pencil which rks the direction rests upon the end of the line marked 12 m. on the lower half of the nk form, then tighten the thumb-screw N.

The length of the mark for velocity is adjusted before being issued. To adjust the ncil to the lines, turn the eccentric screw *c* until the velocity pencil I is in proper ition, which will leave the direction-markers properly adjusted.

The pencils should be kept nicely pointed. The clock should be wound and the rec- changed every day at noon.

WIND-VANE.

6. Two wind-vanes will be furnished at each station; one small one to be sent with observer for immediate use upon his arrival, and one large one to be sent as soon

after the station is opened as practicable. When the latter is received the small on will be removed and carefully stored by the observer for use in cases of emergency.

47. The vane used for getting the direction of the wind must be set in a place as fre and open as possible, in order that the wind may act freely upon it, and must never b sheltered by surrounding buildings or other objects. When the small one is used, ob servers will mark, with the aid of a compass, upon a wooden dial, at the base of the up right which supports the vane, the true meridian of their respective stations. Th magnetic variation at the stations now occupied is shown in the following table:

Station.	Variation east.	Station.	Variation west.
	° ′		° ′
Alpena, Mich	0 00	Baltimore, Md	4 00
Augusta, Ga	3 00	Boston, Mass	11 00
Breckenridge, Minn	14 00	Buffalo, N. Y	4 00
Cairo, Ill	7 00	Burlington, Vt	11 00
Charleston, S. C	2 00	Cape May, N. J	4 30
Cheyenne, Wash	15 00	Cleveland, Ohio	0 00
Chicago, Ill	5 30	Eastport, Me	18 00
Cincinnati, Ohio	3 30	Lynchburgh, Va	1 00
Corinne, Utah	17 00	Mount Washington, N. H	13 00
Davenport, Iowa	9 00	Morgantown, W. Va	1 00
Denver, Colo	14 00	New Haven, Conn	8 00
Detroit, Mich	1 00	Norfolk, Va	2 00
Du Luth, Minn	9 00	New London, Conn	9 00
Escanaba, Mich	4 00	New York City, N. Y	7 00
Fort Benton, Mont	21 00	Oswego, N. Y	7 00
Fort Gibson, I. T	10 00	Philadelphia, Pa	5 00
Fort Sully, Dak	14 00	Pittsburgh, Pa	1 00
Galveston, Tex	9 00	Portland, Me	13 00
Grand Haven, Mich	4 00	Rochester, N. Y	5 00
Indianapolis, Ind	4 30	Washington, D. C	2 30
Indianola, Tex	9 00	Wilmington, N. C	0 00
Jacksonville, Fla	3 30	Wood's Hole, Mass	10 00
Keokuk, Iowa	9 00		
Key West, Fla	4 30		
Knoxville, Tenn	3 30		
La Crosse, Wis	9 00		
Lake City, Fla	3 30		
Leavenworth, Kans	11 00		
Lexington, Ky	3 30		
Louisville, Ky	4 30		
Marquette, Mich	4 00		
Memphis, Tenn	8 00		
Milwaukee, Wis	5 30		
Mobile, Ala	6 30		
Montgomery, Ala	5 30		
Nashville, Tenn	5 30		
New Orleans, La	7 30		
Omaha, Nebr	12 00		
Pembina, Dak	17 00		
Portland, Oreg	21 00		
Punta Rassa, Fla	4 30		
San Diego, Cal	13 30		
San Francisco, Cal	16 30		
Santa Fé, N. Mex	13 00		
Savannah, Ga	3 00		
Shreveport, La	9 00		
Saint Louis, Mo	8 00		
Saint Paul, Minn	10 00		
Toledo, Ohio	2 00		
Vicksburgh, Miss	8 00		
Virginia City, Mont	19 00		
Wytheville, Va	1 00		
Yankton, Dak	12 00		

49. When the large vane is received at any station it will be immediately erecte upon the building in which the observer's office is located, provided the consent of th owner of the building can be obtained, and the roof is strong enough to support i weight.

The general appearance of the vane, and the location of the several parts, are show in the illustration herewith. The iron straps which unite the two parts of the foo block will be taken off and the block separated before raising the vane, in order t put the iron socket holding it in proper position. After the vane is up the pieces wi be fastened firmly together again by these straps. The central rod can be lengthene whenever necessary by adding a piece of the same diameter and cutting a screw-thre on both ends.

Where the office is not on the upper floor so that the rod can be brought into th room through the roof, the lower half of the rod will not be attached, but must be stored away for future use. When the office is on the upper floor the central rod will be brought into the room and allowed to project about two inches through the ceiling. The gilded arrow will then be screwed on and a circle drawn around it on the ceiling a little greater in diameter than the arrow. This circle will be divided into the eight points of compass used in the weather-reports, care being taken to get the true meridian as a starting-point.

50. All stations supplied with the standard wind-vane, with the indicator extending through the roof to the office-ceiling, the words "Adjusted to the true meridian" will be printed inside the vane-circle upon the ceiling.

51. When permission cannot be obtained to put up the vane the fact will be reported at once to this office.

The services of a skilled mechanic may be employed, whenever necessary, in erecting this vane.

The packing-box in which the vane is received will be preserved for use in the event of its removal at any future time.

52. The observation of the vane requires more care than is usually given. In winds of considerable strength the vane is never at rest, or fixed in the same direction; it oscillates incessantly, and its oscillations increase in extent with certain winds and with the violence of the wind. In such cases observers must *note the mean* direction between the extremes. When the wind is too light to move the vane, and when it is calm, no direction will be given in the report, but the space will be filled with the proper cipher-word for "Calm." The attention of observers is called to this matter in order to prevent them from recording the direction of the wind when it is calm. The direction of the wind will be designated by the eight principal points of the compass, beginning with the north and moving around by the eastward, and numbered from one to eight respectively. In reporting changes in the *direction* of the wind, the terms *veering* and *backing* will be used. The term *veering* indicates the changing of the wind from N. to E. to S. and so on, while *backing* being the reverse term, indicates that it changes from N. to W. to S. and so on.

The bearings of both vane and anemometer must be kept well and carefully oiled to prevent friction.

RAIN-GAUGE.

53. The rain-gauge will be placed, whenever practicable, with the top of the funnel-shaped collector 12 inches above the surface of the ground, firmly fixed in a vertical position, and protected from the interference of unauthorized persons. It will be examined at the time of making each of the three telegraphic observations, the amount of water it contains carefully measured by means of the graduated rod sent with each gauge, and then emptied and returned to its proper position. When a position at the level of the ground cannot be found with a sufficiently clear exposure, the gauge will be placed on the top of the instrument-room, or roof of the building occupied by the observer, who will measure the height above the ground and report it to this office. The measuring-rod is graduated in inches and tenths of inches, and the proportion between the cylinder and funnel is as ten to one, so that ten inches upon the rod correspond with one inch of actual rain-fall, one inch on the rod to one-tenth of rain, and one-tenth on the rod to one-hundredth of rain. Snow will be melted and then measured and reported in the same manner as rain, but the fact of its being melted snow must be noted under the head of remarks, in the weekly reports, on Form 4.

CLOCK.

54. The clock will be hung upon the interior wall of the room occupied as an office, and at each station will be carefully adjusted to the standard local time.

As it frequently happens that the telegraph time differs slightly from the standard local time, each observer will be careful to note the amount of this difference, in order to avoid confusion in filing his reports. As the time by which the observations are governed must be as nearly accurate as practicable, the observer will endeavor to arrange with the manager of the telegraph to have both clocks run together as a sure means of preventing errors.

55. Immediately after placing his instruments in position, each observer will make out and forward to the Chief Signal-Officer at Washington a full report in writing, stating the kind, size, and position of room selected; the street and number of the building in which the room is situated; the position of each instrument, and height of each above the ground, and also above the bench-mark furnished by this office. In giving the height of the barometer the measurement will be made from the surface of the mercury in the cistern. Whenever the position of any instrument is changed a record will be made of such change, with date and amount of difference in elevation, and the facts reported at once to this office.

In addition to this information, such other facts will be stated as will enable th Chief Signal-Officer to judge of the manner in which this part of the observer's dut has been performed.

56. Observers are cautioned against changing the position of any instrument without good and sufficient cause, and must report every change in elevation of six c more inches.

TOOL-BOX.

57. The following implements for cleaning and repairing instruments will be supplied, neatly packed in a small box, to each station:

Two screw-drivers, one fitting the screws about the cistern, the other those abou the scale of the barometer; a small glass funnel; two porcelain cups, from two to fou inches in diameter; kid-skin, shoemaker's thread, white wax, chamois-leather, a pai of small forceps, a small three-cornered file, and a blow-pipe.

MISCELLANEOUS APPARATUS.

58. *Printing-press for weather-map.*—At stations supplied with a press for printin maps, the following articles, not sent with the press, will be found necessary: A set c type-springs (one for each reporting station) for the rapid justification of the figures one stick, one galley, sponge, brush, lye, sperm-oil, and benzine. All these articles wil be purchased by the observer, except the type-springs, which will be furnished fron this office.

When the Synopsis and Probabilities are printed, (and this should be done whereve there is a press,) a twenty-five-pound font of pica type will be necessary, in additio to the symbols and figures furnished with the press. The Synopsis should be set in measure of twenty-eight ems wide. At stations supplied with the type-springs th figures will not be removed from the plate after each issue, as the work can be don much more rapidly and easily by simply taking out the springs and changing only suc figures as are necessary.

The figures and symbols should, however, be completely removed twice each montl and, with the plate, thoroughly cleaned. The figures can be cleaned daily in the plat by using a sponge moistened with benzine. The type used for the Synopsis should b washed with lye. The ink-roller should be cleaned weekly, or oftener if necessary, an everything pertaining to the press must be kept well cleaned to prevent difficulty.

If stations are added for which the bed-plate has not been pierced, observers wil have the necessary work done, being careful to get the new stations in their prope geographical position.

One copy of the map will be kept on file in the observer's office for reference, and o Saturday of each week a copy of the current issue will be mailed to this office.

59.—INSTRUCTIONS FOR PRINTING AND DISTRIBUTING THE DAILY SYNOPSES AND PROBABILITIES OF THE SIGNAL-SERVICE, UNITED STATES ARMY, ISSUED BY CO-OPERATIO OF THE WAR AND POST-OFFICE DEPARTMENTS.

1. The press used is the Liberty No. 3, and will be supplied to each distributin station from the central office in Washington.

2. The following articles, required for working the press, when not sent with i will be purchased by the observer in charge at the nearest reliable type-foundery, an a bill for the same forwarded to this office for settlement:

1. Composition roller.
2. One oil-can.
3. One mallet.
4. One shooting-stick.
5. One planer.
6. Fifty quoins.
7. Six pieces furniture.
8. One composing-stick.
9. One rule.
10. Ten pounds leads.
11. One lye-brush.
12. One saw.
13. One saw-block.
14. One pound Johnson's ink.

3. The standard kind of type used will be pica condensed, of which one 30-poun font will be purchased by the observer at the nearest type-foundery. The followin electrotypes for use in printing the Synopses and Probabilities will be furnished by th central office:

1. Two official heads.
2. Two official autographs of Chief Signal-Officer.
3. Two "Synopses."
4. Two "Probabilities."

With proper care the type should last two years and the electrotypes one year.

The Synopses and Probabilities will be printed on flat letter-paper furnished from the central office, and timely requisitions will be made for it. Observers will also see that at least one month's supply is kept constantly on hand.

5. The copies printed at all stations will be similar in form, size, and appearance to those printed at the central office, and bear the same time and date.

6. The Synopses and Probabilities will be issued every morning, except on Sundays, and two copies of every issue will be mailed in one wrapper to each post-office on the list furnished the observer from the central office; also two copies to this office regularly each day. They will be delivered at the post-office of the station where printed in time to be sent off with the earliest morning mail leaving the station. The observer-in-charge will ascertain from the postmaster of such office the precise hour at which they must be delivered for this purpose, and will instruct his assistants accordingly by posting up in his own office an order setting forth the time of delivery and name of assistant charged with this duty.

7. One assistant at each station will be charged with the duty of printing the Synopses and Probabilities alone. He will report for duty one hour before the usual time of receiving the Synopses from the telegraph-office, for the purpose of clearing up and distributing the type, cleaning press, and cutting the paper. The average time required for composition will be one hour; and when the form is on the press the sheets must be worked off in time for the mail, the number varying from 500 to 800 per hour.

8. An assistant will be at the telegraph-office at least ten minutes before the usual time of receiving the Synopses from Washington, and will carry it without delay, when received, to the printer. This assistant will remain at the office to fold and mail the Synopses, and will perform his duty promptly and with regularity.

9. The envelopes or wrappers will be addressed by an assistant selected for the legibility and rapidity of his writing. Especial attention must be paid to legibility by the observers to prevent errors and delays in transmitting these reports through the post-office. Whenever practicable, this duty will be performed by the assistant referred to in paragraph 8, and at least one full day's supply will be kept constantly on hand properly addressed.

10. Proper arrangements will be made by the observer in charge to supply promptly the place of any one or more of the assistants who may be absent through sickness or other causes, and to accomplish this he will instruct his other assistants in the various duties provided for in these instructions.

STAMPING MAPS.

60. *Instructions for stamping manifold weather-maps.*—1. Count off from ten to fifteen maps from the top of the book.

2. Place the iron plate under the number counted out, and turn a map down upon it.

3. Place a sheet of carbon-paper smoothly upon this map, and then turn down the next map, on which put another sheet of carbon, and so on alternating carbon and maps until the number to be issued is complete, leaving the last map without carbon upon it, taking care to smooth all when down.

In making three or four maps only a sheet of blotting-paper should be placed next to the iron plate and beneath the lower map.

4. Place the box of stamps at the top of the map, with each die in its proper place, and taking especial care not to allow the hands or mallet to rest on the paper, and thus mark and deface the lower maps.

5. First stamp with the symbol-dies the direction of the wind and state of weather, as indicated by the legend on the maps. Hold the die perpendicular to the map and strike it hard enough to make the impression go through all the maps without cutting the upper one. The actual amount of force required can only be learned by practice.

6. After the weather use the figure dies, taking care that the figures for one station do not interfere with those of any other. Stamp the first two figures (thermometer) close together, the next two (barometer, 29 or 30) one-eighth of an inch from the first pair, the last two of the barometer following closely. The last of the figures (velocity of the wind) are to be separated one-eighth of an inch from those for the barometer. Great care must be taken to make the figures neat and regular in appearance, and to stamp them so they can be read without difficulty.

7. After the maps are properly stamped write with the stylus in head-line the name of station, day of week, date, and time of report, thus: "Washington, D. C., Saturday, April 20, 1872, 7.35 a. m."

WATER-GAUGE.

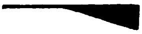
61. No definite form of water-gauge has been adopted, owing to the difficulty of getting one at a reasonable cost that would be adapted to the essentially different circumstances under which it must be used at the several river-stations. The following

description of a simple form of gauge may be useful in localities where it is difficult to get one of more scientific construction, or to be used as a temporary substitute for the latter in cases of emergency:

Take a piece of pine scantling, from 1¼ to 1½ inches in thickness, and from 5 to 6 inches in breadth; the length varying according to the depth of the water where it is to be used.

Having planed the scantling smooth, give it a heavy coat of white zinc paint, and after the paint is dry divide the scantling into feet and tenths of feet with a rule and lead-pencil.

With a small brush paint the tenths of feet black, except the center and initial ones of each foot, which will be painted red and in heavier lines than the intermediate ones, thus:



Indicate each foot, with its proper number, in plain figures marked on the white surface just above the triangle.

Having thus marked the staff up to a sufficient height to insure getting the maximum high water, select a pile, or other stationary object, in some portion of the levee or wharf where the staff will be secure from being damaged or defaced by coming into contact with vessels, and where it will not be left dry by the tide. Lower the staff into the water, taking care to keep it in a vertical position until it touches the bed of the river, and then secure it to the pile by spikes.

It would be well, in selecting a place for fixing the staff, to take the angle of a pier, and having fastened a smooth piece of scantling, about the size of the staff, on the side of the pile, secure the staff to this.

When the gauge is in an exposed place, liable to be washed by the waves, advantage should be taken of the first low water to secure it from being displaced, by driving in additional spikes, or lashing it with strong cords to the pile.

Care must be taken in reading the staff when the water is rough to get the mean of the rise and fall of the waves. It would be well, after securing the staff, to determine some point of reference, so that in case it should be destroyed another one could be put up at the same height. This may be done by taking and marking some given point in the vicinity, a pile or a rock, at any given height of the water. Thus, by driving a spike or drilling a hole, and recording the height of the water, as read from the staff at the time, you have a "bench-mark," or point of reference, by which to set up another staff. It would be necessary in doing this to make a sketch of the place, giving the location of the staff and the point of reference; noting the local names of the surrounding points so that any other person could find the place from the description.

62. Observers, in publishing their local river-reports, will give, in addition to the changes in past twenty-four hours, the height of water above or below some fixed point known and used by steamboat-men and other interested parties.

63. The river observations must be made and reported with as much care, regularity, and accuracy as those of the barometer, and where the observer is compelled by pressure of other duties to intrust this part of his work to an issistant, he must assure himself by frequent personal inspection that it is faithfully and honestly done.

SIGNAL APPARATUS.

64. Stations ordered to display cautionary signals will be supplied with two (or more) red flags, one 6 feet and the other 8 feet square, having square *black* centers one-third the size of the flag; one red signal-lantern; one large flag-staff, and two sets of small staffs for use in cases of emergency. The large flag-staff must be from 25 to 30 feet in height, and so situated as to be clearly visible from as large a part as possible of the harbor and shipping it is designed to warn of approaching danger. The staff will be provided with halyards for raising and lowering the flags and lantern, and will be erected on the roof of some building, preferably on the one in which the office is located, unless a more desirable position is found near the office.

Everything connected with the signal apparatus must be kept in perfect order; flags mended when torn, ties sewed on, halyards renewed, lanterns constantly filled and trimmed, and the approaches to the staff convenient so that there may be no delay in obeying all orders to hoist or lower signals.

65. Timely requisition must be made upon this office for new articles of equipment when those in use are likely to become unserviceable.

SIGNAL-ORDERS.

66. Signals will be ordered up by telegraph from this office in the words "Up signals," and will be ordered down in the words "Signals down." Signals will remain displayed until the order to lower them is received from this office, unless telegraphic communica-

Form A.—Record of telegrams refused by telegraph companies.

Form B.—Record of telegrams sent and received.

72. Form 1 is used by the special river-observers for their reports, which should be made in duplicate; one copy for file in the telegraph-office at the schedule times and the other to be forwarded to this office at the end of each week.

73. Form 2 is for the use of the telegraph-operators in receiving the reports from other stations, and will be furnished by the observers in such quantities as may be required, care being taken to guard against wasteful and unnecessary use. The spaces will be filled up in regular order, commencing at the upper left-hand space and filling each space to the right in succession on the first line, and then commencing at the left-hand space of the second line, and so on until each space is filled. Obsevers will require the receiving operators to sign and date each sheet, and also to note the time the reports upon it were received, before taking it from the telegraph-office. When the reports are received in duplicate by the operator, observers will retain the original sheets furnished them by this office.

After the reports are transferred to the bulletin the receiving sheets for each full report will be placed together and folded neatly in three folds parallel with the writing.

Each morning the three reports of the preceding day will be secured together so as to form a single package. At the end of each week the seven daily packages of the week will be put up in a neat package and forwarded by mail to this office, accompanied by the error-sheet.

74. Form 3 is the Daily Bulletin, issued for public information. The several columns will be filled up from the receiving sheet, the words and figures being written plainly and distinctly.

Before making any entries upon the manifold form, the sheets will be carefully smoothed down so that the registered lines of the several stations will fall directly over each other. If more than fifteen bulletins are to be written it is better to make out the number in two equal parts than to try and write them all at once, in order that the copies may all be legible.

One copy of the morning issue of the Saturday Bulletin will be mailed to this office from each station.

The headings of the different columns indicate with sufficient clearness the matter to be filled in.

When any part of a report is not received, or, if received, is evidently incorrect, the word "blank" will be written in the spaces to be filled by such part.

Absence of wind, pressure of wind, clouds, rain-fall, or change in barometer, thermometer, and river, will be indicated by the figure zero.

New stations, whose names are not in the printed list, will be written in the blank lines at bottom of the form.

The following data will be given on all Forms 3 posted:

"Posted in..

at...................... M...

(Signed)..

Observer."

In the first blank space will be written the name of the locality where posted; in the second space, the *time*; and in the third space, the *date* of posting.

Each bulletin will be signed with the full name of the observer.

75. Form 4 is the weekly report, and three copies will be forwarded to this office at the end of each week; one copy containing the full record of the telegraphic series of observations, one the record of the local series, and the third that of the mid-day observations. In filling up this form the *daily* means of the *local* (7.2 and 9 o'clock) and the *weekly* means of the *telegraphic* barometric and thermometric observations will be entered in their proper columns, and the words "daily" and "weekly" respectively added to the heading.

In the telegraphic series will be given, firstly, the mean of the morning; secondly that of the afternoon; and thirdly, that of the midnight observations.

76. Form 5 will be used for all of the telegraphic reports, and will be made out each time in duplicate, one copy for deposit in the telegraph-office, for transmission by telegraph to this office, and the other for transmission by mail to the same place. Both copies must be filled up and signed in the manner indicated upon the form itself.

Each regular report will consist of *ten* words, arranged in two lines of *five* words each. At all stations designated by this office as *river* stations, the afternoon report will consist of *twelve* words, arranged in two lines of *six* words each.

The sixth space in first line of Form 5 will be used for the depth in feet above or below the established bench-mark whenever it exceeds eight feet, and the sixth space in second line for the odd inches.

Form A.—Record of telegrams refused by telegraph companies.
Form B.—Record of telegrams sent and received.

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73. Form 2 is for the use of the telegraph-operators in receiving the reports from other stations, and will be furnished by the observers in such quantities as may be required, care being taken to guard against wasteful and unnecessary use. The spaces will be filled up in regular order, commencing at the upper left-hand space and filling each space to the right in succession on the first line, and then commencing at the left-hand space of the second line, and so on until each space is filled. Obsevers will require the receiving operators to sign and date each sheet, and also to note the time the reports upon it were received, before taking it from the telegraph-office. When the reports are received in duplicate by the operator, observers will retain the original sheets furnished them by this office.

After the reports are transferred to the bulletin the receiving sheets for each full report will be placed together and folded neatly in three folds parallel with the writing.

Each morning the three reports of the preceding day will be secured together so as to form a single package. At the end of each week the seven daily packages of the week will be put up in a neat package and forwarded by mail to this office, accompanied by the error-sheet.

74. Form 3 is the Daily Bulletin, issued for public information. The several columns will be filled up from the receiving sheet, the words and figures being written plainly and distinctly.

Before making any entries upon the manifold form, the sheets will be carefully smoothed down so that the registered lines of the several stations will fall directly over each other. If more than fifteen bulletins are to be written it is better to make out the number in two equal parts than to try and write them all at once, in order that the copies may all be legible.

One copy of the morning issue of the Saturday Bulletin will be mailed to this office from each station.

The headings of the different columns indicate with sufficient clearness the matter to be filled in.

When any part of a report is not received, or, if received, is evidently incorrect, the word "blank" will be written in the spaces to be filled by such part.

Absence of wind, pressure of wind, clouds, rain-fall, or change in barometer, thermometer, and river, will be indicated by the figure zero.

New stations, whose names are not in the printed list, will be written in the blank lines at bottom of the form.

The following data will be given on all Forms 3 posted:

"Posted in..

at...................... M ....

(Signed)..

Observer."

In the first blank space will be written the name of the locality where posted; in the second space, the *time;* and in the third space, the *date* of posting.

Each bulletin will be signed with the full name of the observer.

75. Form 4 is the weekly report, and three copies will be forwarded to this office at the end of each week; one copy containing the full record of the telegraphic series of observations, one the record of the local series, and the third that of the mid-day observations. In filling up this form the *daily* means of the *local* (7.2 and 9 o'clock) and the *weekly* means of the *telegraphic* barometric and thermometric observations will be entered in their proper columns, and the words "daily" and "weekly" respectively added to the heading.

In the telegraphic series will be given, firstly, the mean of the morning; secondly, that of the afternoon; and thirdly, that of the midnight observations.

76. Form 5 will be used for all of the telegraphic reports, and will be made out each time in duplicate, one copy for deposit in the telegraph-office, for transmission by telegraph to this office, and the other for transmission by mail to the same place. Both copies must be filled up and signed in the manner indicated upon the form itself.

Each regular report will consist of *ten* words, arranged in two lines of *five* words each. At all stations designated by this office as *river* stations, the afternoon report will consist of *twelve* words, arranged in two lines of *six* words each.

The sixth space in first line of Form 5 will be used for the depth in feet above or below the established bench-mark whenever it exceeds eight feet, and the sixth space in second line for the odd inches.

Whenever the depth does not exceed eight feet, the word "River" will be used to fill the space in first line, and the whole depth given in the second line in inches.

In furnishing the reports to the press, and in filling up the bulletin, Form 3, the daily change only will be given, as at present. This change will be obtained by taking the difference between the current report and that of the preceding day.

In filling up the form, the first space of the first line will be used for *name of station*, the second for *date* and *time* of report, the third for barometer, the fourth for thermometer, and the fifth for humidity. In the second line the first space will be used for state of weather, the second for velocity of wind, the third for upper clouds, the fourth for lower clouds, and the fifth for rain-fall. The cipher-words must, in all cases, be written plainly and correctly. The word "Blank" will be used when, from any cause, an observation is not taken.

The duplicate copies of the report for each day will be mailed weekly to this office from all stations.

77. Form 6 is a memorandum-receipt for property, and will be filled up with the number and kind of articles received, signed, dated, and transmitted promptly to this office.

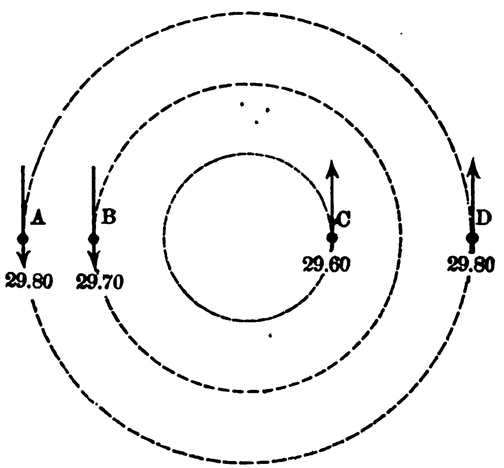
Detailed instructions in reference to this form will be given under the head of "Property."

78. Form 8 is the weather-map, to be printed or made out in manifold, as may be directed from this office, and shows the direction of the wind, state of weather, height of barometer, height of thermometer, and velocity of wind at each station. The arrow is always to fly *with* the wind, and *not toward* it like a vane. In printing or stamping these maps great care must be exercised to make the figures and different signs correctly and distinctly. Observers must never allow imperfect or illegible maps to leave their offices. To insure accuracy, the printed maps, before being issued, must be carefully compared with the reports received, and, if errors are found, they will be corrected on the map, if the corrections can be made without disfiguring it, and without rendering it illegible. If they cannot be so corrected, the whole edition will be destroyed, as it is better not to issue any map than one which is imperfect. One copy of this map will be sent to this office on Saturday of each week, unless special instructions are received to the contrary by the observer from proper authority.

79. Observers are authorized to trace upon these maps *isobars* or lines of equal barometric pressure, in accordance with the following directions:

1st. Ascertain by a general examination of the reports, after they are entered on the map, whether any of the lines of equal pressure will, when drawn, traverse a large portion of the map, and, if this is found to be the case, these long lines will be drawn first. The lines of 29.90, 30.00, and 30.10, on the map, opposite page 12 of the circular issued by this office, on the Practical Use of Meteorological Reports and Weather-Maps, are illustrations of this principal isobar or *base-line*.

2d. If decided differences in barometric readings are observed to exist between neighboring stations, enter upon the map with a red lead-pencil little dots or dashes, intermediate between any two of them, to represent the points at which the barometric reading would be exactly 29.50, 29.60, &c., or 30.00, 30.10, &c., supposing the pressure to change uniformly in the space between the two stations. The precise position of these intermediate points can usually be found with sufficient exactness by estimation with the eye.



The interpolated isobars—that is, those which are drawn between stations, as in the preceding paragraph—cannot be relied upon as perfectly accurate, but the amount of error need not exceed two-hundredths of an inch in the position of any one line, if proper attention is paid to the following points: *First.* The isobars must not be extended west of the one hundredth degree of longitude west of Greenwich, (or the meridian twenty-three degrees west of Washington,) as the barometric readings of very elevated stations cannot at present be combined with those of an altitude of fifteen hundred feet or less. *Second.* The barometrical readings reported from Mount Washington must not be used in drawing the isobars over the New England States. *Third.* Certain allowances or corrections must be made for the readings reported from several stations whose elevation is not yet accurately determined. These corrections will be furnished from this office upon application.

When a sufficient number of dots or dashes have been made to enable the observer to trace the course of one or two of the principal isobars, they will be joined together by a curved line passing through, or nearly through, all of them, without following any of the minor irregularities that would be possibly caused by slight errors in the interpolations.

Any perplexity that may arise in drawing these lines, as to their proper route, may generally be removed by considering the direction of the wind, as reported from each station. Thus, if from stations A, B, C, and D reports are received as shown in the figure, it would be seen at once that between B and C there was a central area of low pressure around which the wind circulated in the direction indicated by the arrows, and the isobars would therefore be drawn as shown by the dotted lines.

When the lines are very much crowded together, as happens in a few severe storms, the isobars may be drawn for every two-tenths of an inch, instead of every one-tenth.

Each isobar should be plainly marked at its extremities with the figures indicating the corresponding pressure, and the central areas of highest and lowest pressure should be marked "high" and "low," respectively, unless by so doing the appearance of the map would be injured by the complication of the lines.

When the observer has any doubt as to the course of a given isobar, he should omit it entirely, or simply indicate its probable position by a broken instead of a full red line. Observers will forward to this office weekly examples of their isobaric maps, and will not post them in any public place until officially authorized to do so.

80. Form 15 is for the Synopsis and Probabilities, and a copy properly filled will be posted with each bulletin at all stations where they are received. The midnight synopsis will be used with the morning bulletin, and the morning synopsis with the afternoon bulletin, whenever practicable. At stations where the afternoon and not the midnight synopsis is received, this will be used with the bulletin of the next morning.

In all cases the time and date of issue from Washington must be plainly written upon the form.

81. When observers are compelled to copy reports from the newspapers, and time and date are not given, they will call the especial attention of the publishers of such papers to the omission and have it corrected, when possible, as a matter of justice to this office and to their readers.

82. Form 16 is the blank meteorological chart to be made out monthly at each station, and forwarded by mail to this office as soon after the close of each month as practicable.

The following instructions, taken in connection with the illustration given in the annual report of the Chief Signal-Officer for 1871, will enable observers to make them out properly:

For the thermometer, take the weekly reports on Form 4, beginning with the morning report of the first day of the month; with a sharp pencil make a dot on the chart at the height at which the dry-bulb thermometer stood at 7 a. m., (or the first observation,) at its 7. a. m. relative distance from the 12 m. line, as shown in the illustration referred to. Do the same with each of the six observations. Join these dots with the pencil and afterwards trace with ink.

Continue the same way with the wet-bulb thermometer, barometer, velocity of the wind, and the relative humidity, marking the direction of the wind in small letters opposite each observation.

The average amount of clouds for each day will be given in the spaces immediately above the 29.00 inch line in the chart dividing the squares into 1, 2, 3, and 4-4ths, respectively.

The dark lines for rain are placed with the right edge at the point where the rain ceased.

The scale may be changed for a greater fall of rain than 1¼ inches, or a greater velocity of wind than thirty-five miles per hour.

Different colored ink may be used for the several lines, if preferred.

In forwarding these charts by mail they should never be folded, but rolled neatly and compactly without any central core. As they are intended for future reference care should be taken in making them out accurately and neatly.

83. Form 19 is the error-sheet, which accompanies the weekly packages of Form 2 sent by observers to this office. It will be filled up in the following manner:

In the third column will be entered the official numbers of all regular reports missing when the telegraphic circuits are closed. In the fourth, fifth, and sixth columns will be entered, on the same line under appropriate headings, the numbers of all reports of previous dates which may have been received during the time designated at the left-hand of the form. In the seventh column the time the last report was received will be noted. Receipt of duplicates, corrections, and reports not in schedules, causes of delay, &c., will be noted in the column headed "Remarks." The number of words must include all reports due at the station which may have been received up to the time the circuits were closed, whether they were of the current or previous dates. Duplicates and corrections are not to be counted. *Each line of the form must contain a complete record of the work for the date and time specified.* The record will be made up from Form 2 immediately after each report.

84. In filling up Forms 19 and B, the following-named stations will be designated by the letters placed opposite each name:

Booneville	A.	Lexington	K.
Brownsville	B.	Little Rock	L.
Brunswick	C.	Marietta	M.
Confluence	D.	Morgantown	N.
Evansville	E.	New Geneva	O.
Freeport	F.	Oil City	P.
Hermann	G.	Paducah	Q.
Jefferson City	H.	Plattsmouth	R.
Kansas City	I.	Saint Joseph	S.
Le Claire	J.	Warsaw	T.

85. Form 22 is used for the record of the daily and monthly means of the barometer and thermometer, with the prevailing direction of the wind and amount of rain-fall for the month. In filling up this form the means of the barometer and thermometer for the local series of observations will be obtained by dividing the sum of the 7 a. m., 2 p. m., and *double* the 9 p. m. observations, by four. Manifold copies of this form, properly filled up, will, at the end of each month, be furnished by observers to as many of the newspapers and other periodicals published at their stations as may desire to make use of it. One copy will also be forwarded to this office on the first day of the month succeeding that of which it forms the record.

86. Each observer will rule out, on heavy white paper, a blank form similar to the one given below, and post it up in a conspicuous place in his office. On this form he will enter, on the first day of each month, the data for the preceding month indicated at the top of the several columns in the form.

Date.																						and melted snow.		
		Mean of—			Range.				Mean of—			- Range.				Number of miles.								
	Mean.	A. M. observation.	P. M. observation.	Night observation.	Highest.	Lowest.	Difference.	Mean.	A. M. observation.	P. M. observation.	Night observation.	Maximum.	Minimum.	Difference.	Prevailing direction.	Noon to 6 p. m.	6 p. m. to midnight.	Midnight to 6 a. m.	6 a. m. to noon.	Maximum velocity during month.	Total.	Amount in inches.	Number of days on which rain or snow fell.	Number of auroras.
187 .																								
January																								
February																								
March																								
April																								
May																								
June																								
July																								
August																								
September																								
October																								
November																								
December																								
Annual means																								

	GENERAL REMARKS.
January	
February	
March	
April	
May	
June	
July	
August	
September	
October	
November	
December	

Station ——,

—— ——, *Observer.*

87. The weekly mean of the telegraphic observations of the barometer and thermometer will be obtained in the following manner: Divide the sum of the a. m. telegraphic observations by the number of observations, and the quotient will be the mean of the morning observations; proceed in the same manner for the afternoon and night observations, and enter the quotients separately under the head of "Remarks," on Form 4.

The monthly mean of the telegraphic observations will be obtained in the same manner.

The local observations made at 7 a. m., 2 p. m., and 9 p. m. will not be used in getting this mean.

ILLUSTRATIONS.

Barometer; telegraphic observations, 7.35 *a. m.*, 4.35 *p. m.*, *and* 11.35 *p. m.*, *Washington mean time.*

A. M.	P. M.	Midnight.
30.04	30.04	30.08
30.09	30.11	30.06
30.09	30.00	29.89
29.83	29.76	29.70
29.76	29.83	29,96
30.04	29.96	29.89
29.85.	29.66	29.60
7)209.70	7)209.36	7)209.18
29.957	29.908	29.883

Mean of a. m. observatiom	29.957
Mean of p. m. observation	29.908
Mean of midnight observation	29.883

Thermometer; telegraphic observations, 7.35 *a. m.*, 4.35 *p. m.*, *and* 11.35 *p. m.*, *Washington mean time.*

A. M.	P. M.	Midnight.
24	37	32
32	42	32
27	47	38
40	46	40
34	32	24
23	42	38
34	61	52
7)214	7)307	7)256
30.6	43.8	36.5

Mean of a. m. observation	30.6
Mean of p. m. observation	43.8
Mean of midnight observation	36.5

88. In calculating the mean of the thermometer readings at low temperature, the following rule will be observed:

"When minus readings occur, the difference between the sum of the positive and the sum of the negative numbers is to be taken. This difference, which is the total sum, has the sign of the greater of the two partial sums, and will be divided by the total number of observations."

The quotient obtained by this division will be the mean sought.

The following are examples:

Example 1.

	+ 70
	+ 50
	+ 20
	0
Sum of positive	+ 140
Sum of negative	0
Total sum	+ 140
Number of observations	4
Mean	+ 35

Example 2.

	+ 60
	+ 20
	0
	— 5
Sum of positive	+ 80
Sum of negative	— 5
Total sum	+ 75
Number of observations	4
Mean	+ 18.75

Example 3.

	+ 2
	— 5
	0
	+ 4
	— 7
	+ 5
	— 15
Sum of positive	+ 11
Sum of negative	— 27
Total sum	— 16
Number of observations	7
Mean	— 2.3

Example 4.

	— 5
	0
	0
	0
	0
	0
Sum of positive	0
Sum of negative	— 5
Total sum	— 5
Number of observations	6
Mean	— 0.8

89. Form 23 is for use at stations designated for the display of cautionary signals, and will be filled up and forwarded weekly to this office during the period signals are ordered. Under the head of "Remarks" will be recorded the highest velocity reached by the wind during the time the signals were displayed.

When no signals have been ordered during the week, this form must be forwarded and show, under the head of "Remarks," the highest velocity attained by the wind during the week.

Form 24 is the weekly report of the number of bulletins, maps, &c., issued at each station, and will be forwarded to this office in the same envelope with the other regular weekly reports.

All publications that have been issued at any station during each week will be reported on this form, and if special publications are made in addition to those noted in the heading of the several columns of the form, observers will rule additional columns for such publications.

90. Form 25 is the one upon which all official telegrams to this office must be written. As everything transmitted is charged for, unnecessary words must be avoided. The full date and time of filing message will be written *above* the upper heavy line, while only the name of the city and the day of the month will be written below. The signature must contain only the surname of the sender and the word "Observer." Only the matter written between the heavy lines is to be transmitted.

91. Form "A" will be filled up properly and carefully under each heading, and mailed on Monday of each week to this office. In the column headed "Nature of message," will be indicated *briefly* whether the message rendered was a weather-report or ordinary message, and in the column of "Remarks" give such additional information as you may think necessary to a full understanding of each case.

This form will be sent in blank if no messages have been refused.

92. Form "B" will be forwarded promptly to this office at the end of each week, using but one form, except in cases where it is necessary to use more to complete the record, taking great care to keep a correct record of number of telegrams sent or received. In case there should have been no telegrams received or sent during the week, the form will be sent in blank. All telegrams must be properly dated and signed.

BOOKS OF REFERENCE AND RECORD.

93. The following books of reference and record will be furnished by this office to each station:

For reference.—Guyot's Meteorological Tables; Buchan's Handy Book of Meteorology; Loomis's Treatise on Meteorology; Myer's Manual of Signals; Piddington's Horn Book; Manual of Military Telegraphy; Annual Reports of the Chief Signal-Officer; Practical Use of Meteorological Reports and Weather-Maps; Instructions to Observer-Sergeants, Signal-Service, U. S. A.; Smithsonian Directions for Meteorological Observations.

For Records.—Journal; Daily Record of Observations; Record of Bulletins; Record of Letters Sent; Record of Letters Received; Index to Letters Sent and Received; Original Record of Observations; Weather-Map of the United States.

94. In the journal will be entered daily all matters of interest not provided for in the various forms, such as meteoric and auroral displays, earthquakes, and unusual atmospheric appearances and disturbances, giving in all cases, when possible, the time of beginning and duration of each. Especially will the observer enter a detailed account of the characteristic phenomena of every serious storm that passes over or near his station. In this book will also be noted all changes in location of office or instruments, the condition of the instruments, and when damaged in any way the cause will be stated. A monthly abstract of the entries in the journal will be forwarded to the Chief Signal-Officer within five days after the expiration of each month. This abstract must contain all the important entries of the journal, the condition of all in-

struments in use on station, and also the comparative readings of the barometer referred to in paragraph 31.

95. Observer-sergeants will be particular to note every display of aurora, seeking by inquiry of others, if necessary, to make their record complete.

If the heavens are obscured by clouds so that the aurora, if present, cannot be observed, the word "obscured" will be entered in that part of the record devoted to auroral displays. If the sky is sufficiently clear for observation, the words "aurora" or "no aurora" will be entered according as one is visible or not. When observed, a full account of the phenomenon will be entered in the journal, showing the exact minute of beginning and ending of the aurora, and the principal phases of changes that it experiences. The following particulars should be especially noted: the azimuth and altitude of each extremity and of the crown of any arch of light, and the same data for any corona or glory that may be formed.

When the observer is familiar with the names of the principal fixed stars, he may locate the arch or crown by reference to them, but it is preferable that he should observe directly the altitude and azimuth.

Altitudes are expressed by degrees from the horizon to the zenith. If any circle be divided into the 360 parts and radial lines connect these parts with the center, each pair of lines subtend an angle of one degree; the fourth part of the circle will subtend an angle of ninety degrees or one right angle, and the corresponding radii are perpendicular to each other; thus the zenith (that point in the heavens immediately above the observer) is ninety degrees from the horizon, or, in other words, its altitude is 90°.

A point half way up from the horizon to the zenith has an altitude of 45°.

Azimuths are also expressed in degrees but are measured on the horizontal plane, and will be recorded as is done in astronomy, from the south point to the westward, passing successively the west, north, and east points of compass until 360° have been passed over and the south point is again reached.

Observers must be particular as to the date of the aurora, and when it begins in the evening of one day and continues into the early morning of the next day, it will be entered as occuring on the *first* day, but its details will be given in the record as occurring between the hours of its actual beginning and ending. Thus, an aurora that began on the evening of the 12th of January, and continued until the early morning of the 13th, would be entered as the aurora of the 12th, but its details would be recorded as occurring, for instance, between the hours of 10 p. m. of January 12, and 2 a. m. of January 13.

All entries in the journal of occurrences and observations of any one day will be made under or opposite to that day, and not be entered as a subsequent date as is frequently done. For example: an auroral display ocurring May 23, should be entered opposite that date, and not referred to on the 24th, as having occured "last evening."

Observers must pay particular attention to accuracy in the use of the terms "morning" and "evening," and will be governed by the following instructions in reference to them:

Midnight is the moment 12h. 00m. 00s., and is the beginning or first moment of the new day and should receive the date of that day. Thus, whatever happened in the afternoon of June 10, at 11h. 59m. 59s. happened at 11h. 59m. 59s. p. m., June 10; whatever happened one second later was at midnight of June 10 and 11, and at one second later still at 12h. 00m. 01s. a. m. of June 11; at midday of same date whatever happened at 11h. 59m. 59s. happened at 11h. 59m. 59s. a. m., June 11; at one second later it was noon June 11; at one second later still it was 12h. 00m. 01s. p. m., June 11.

96. The daily record of observations will be an exact copy of Form 4, and filled up in the same manner. The several series of observations can be entered in the same book, care being taken to date and time them properly. The telegraphic series may be entered in the beginning of the book, and the local series at the end, while the midday reports may follow either of the two.

97. The record of bulletins will be filled up regularly from the daily bulletins, of which it is a copy.

On stations where telegraphic reports from other stations are not received, or where such reports do not exceed nine in number, a whole page in the bulletin-book will *not* be used in entering each bulletin. To economize space, the reports will be entered in the same order as at present, but as many days will be written upon each double page as the space will allow; each day being distinguished by a proper heading as to date, and separated from the preceding one by a red-ink line.

Wherever necessary, the printed names of stations will be ruled out, and those from which reports are received written in red ink, in the blank spaces between the original names, and in regular order.

98. In the books of "Letters sent" and "Letters received" will be entered all letters sent, and an abstract of all those received relating to the official business of the station. The original letters received will be properly briefed and numbered, and filed away for reference. In the book of "Letters received" will be entered a record of all official letters and telegrams received at the station.

99. All communications on letter-paper will be folded in three equal parts from the

bottom to the top; and if written on different sized paper, will be folded in such manner as to conform to the above size. All communications will be entered in the order of their receipt and numbered continuously, beginning at one on January 1 of each year, (or at the date of the receipt of the first letter, when a station is opened during the year,) and each letter will be known by this number in all references made to it in the office-records. Inclosures to letters will not be indorsed, but simply numbered, in red ink, as "Inclosure No.—" to said letter. On the top of the first fold will be entered, in red ink, the number of the letter, the station, and the year. This will be followed by the following entries in black ink:

1st. The place where written and date.

2d. Name and official designation of writer or department or office from which it is written.

3d. A brief synopsis showing the general purport of the letter. In this synopsis or brief everything of importance in the letter will be concisely stated.

Following this will be given in red ink the number of inclosures if any, in the letter, and such references as may be necessary to show where other letters connected with it can be found in the records. At the bottom also in red ink the date at which the communication is received will be entered, (see Examples A and B.) If the communication is received by telegraph the word "telegram" will be written in red ink immediately below the brief.

The following illustration shows the manner of entering letters in the record:

LETTERS RECEIVED.

When received.	Name of writer.	Date and purport of letter.
April 17, 1873 **90**	Office Chief Signal-Officer, by First Lieut. H. Jackson.	Washington, April 12, 1873, directs that one stylus, dropped from return for 1st qr., be taken up and correction made on retained copy. **Retained return corrected April 17, 1873.** **(Number of letter and indorsed action in red ink.)**
April 19, 1873 **94**	Office Chief Signal-Officer, by Capt. H. W. Howgate. **(One inclosure.)**	Washington, April 12, 1873, directs that a weather-map be daily furnished to James R. Stone, Racine, Wis., as requested by Louis Decker. **Delivery of map commenced April 20, 1873.** **See L. S., Vol. 1, page 59.**

One or more lines will always be left below the brief for noting, as shown in the illustration, any action taken in consequence of said letter, as well as the entry-marks of any letters, either received or sent, especially connected with it. In these references letters received are referred to by number and year, and letters sent, by volume and page.

In case the letter received is to be returned with an indorsement, such indorsement will be entered in full in the space immediately below the brief, and two additional lines will then be left in which to note any future action.

LETTERS SENT.

In this book will be entered all communications sent from the office by letter or telegram, excepting only such indorsements as are entered in "Letters received," in accordance with the instructions contained in the preceding paragraph. All proper names appearing in the body of the letter will be underlined with red ink. In the margin will be given in red ink the entry-marks of any letter, either received or sent in connection therewith, letters received being referred to by number and year, letters sent by volume and page. Exact copies of all telegrams sent will be entered in full, and marked "Telegram" in red ink. The following illustration of the manner of entering letters sent will show the manner in which the several notes are made. [The words and figures in brackets indicate red ink.]

[6] [LETTERS SENT.] [59]

"MILWAUKEE, WIS., *May* 3, 1873.

"To the CHIEF SIGNAL-OFFICER OF THE ARMY:

[L. R. 94. Milwaukee, 1873.] "GENERAL: I have to advise you that I am verbally informed by Mr. Louis Decker that Mr. J. R. Stone, of Racine, Wis., has removed to Oregon, and that in consequence I have this day discontinued the map ordered by communication from your office under date of April 12, 1873.

"I am, respectfully, yours,

"H. M. LUDWIG,
"*Observer-Sergeant, Signal-Service, U. S. A.*"

NOTE.—In case any other letters had passed in this connection, the entry-marks would be entered in the margin.

In letters received, each proper name will be followed by the number of the letter in which it is to be found; if it is the written name it will be entered in black ink, otherwise in red ink. In letters sent, the proper names will be followed by the number of the page on which the letter containing the name is to be found; if it is the signature of the person writing the letter, it will be entered in black ink, otherwise in red ink. Each name will be entered but once and the numbers will follow it successively, as follows:

"Office Chief Signal-Officer, 1, 3, 4, 8, 10, &c.
"Wind-vane, 3, 10, 29.
"Wentworth, H. W., 18-24-26."

INDEXING.

The alphabetical index-book furnished the observers from this office will be kept up regularly from day to day in connection with the books of letters sent and received, and must show the names in proper order of all official correspondents of the observer, with references to volume and page where their communications appear.

General orders, special orders, and circulars, will be filed away separately, and in such manner that they can be found readily, and will be roughly bound by the observer at the end of each year. General orders and circulars will be indorsed in red ink at the bottom of the first page, with the name of station and date of receipt, as follows:

"Received (Milwaukee,) ————, 187—."

Spare maps and bulletins will be neatly folded in letter size and tied up in packages containing a month's issue and filed away where they will be easily accessible.

Example A.

WAR DEPARTMENT, OFFICE OF THE CHIEF SIGNAL-OFFICER,
DIVISION OF TELEGRAMS AND REPORTS
FOR THE BENEFIT OF COMMERCE AND AGRICULTURE,
Washington, D. C., April 12, 1873.

Observer-Sergeant H. M. LUDWIG, U. S. A.,
Milwaukee, Wis.:

SERGEANT: Inclosed herewith is a copy of a letter from Louis Decker requesting that a weather-map be daily furnished to Mr. James R. Stone, Racine, Wis. You will place Mr. Stone's name upon your list and comply with his request.

Very respectfully, &c.,

H. W. HOWGATE,
Second Lieut. and Bvt. Capt., U. S. A., A. S. O. and Assistant.

94. MILWAUKEE. 1873.

WASHINGTON, April 12, 1873

Office of Chief Signal-Officer,
by
Capt. H. W. Howgate.

Directs that a weather-map be daily furnished to Mr. J. R. Stone, Racine, Wis., as requested by Mr. Louis Decker.

(One Inclosure.)
See L. S., Vol. 1, page 59.

Received Milwaukee, Apr. 19, 1873.

Explanation.

All office marks in red ink, brief in black ink. "L. S., vol. 1, page 59," refers to letter subsequently written in regard to this map.

Example B.

WAR DEPARTMENT, OFFICE OF THE CHIEF SIGNAL-OFFICER,
DIVISION OF TELEGRAMS AND REPORTS
FOR THE BENEFIT OF COMMERCE AND AGRICULTURE,
Washington, D. C., April 12, 1873.

Observer-Sergeant H. M. LUDWIG,
Milwaukee, Wis.:

SERGEANT: I have to inform you that one stylus dropped by you from your property return for first quarter, 1873, must be taken up until inspected and condemned by proper authority. You will make the necessary correction in the retained property-return for that quarter.

Respectfully, yours,

H. JACKSON,
First Lieut. Seventh Cav., P. & D. O.

90. MILWAUKEE. 1873.

WASHINGTON, April 12, 1873.

Office of Chief Signal-Officer,

by

1 Lt. Henry Jackson.

Directs that one stylus, dropped from return for 1st Qr., '73, be taken up and correction made on retained copy.

Received April 17, 1873.

(Copy.)

MILWAUKEE, WIS., *April* 9, 1873.

To the CHIEF SIGNAL-OFFICER OF THE ARMY:

SIR: I have the honor to request that the observer-sergeant in charge of the station in this city be directed to furnish a weather-map daily to Mr. James R. Stone, Racine, Wis.

Respectfully, yours,

LOUIS DECKER.

94. MILWAUKEE. 1873.

(In red ink.)

Inclosure No. 1.

(In red ink.)

Letters transmitting checks for pay of observers are not merely personal, but must be carefully entered and preserved.

The receipts for pay should be copied in "Letters sent." Great care should be taken to specify the amount of any bills forwarded in a letter, and also to note the date of all payments, under the brief of the letter, in the record-book containing the remittance.

100. The large weather-map of the United States will be hung up in the principal room of the board of trade, or chamber of commerce, or both, and the state of the weather will be shown upon it in the manner already described, as soon after the receipt of the morning report as is practicable.

101. All books of reference and record must have the name of the station to which they belong plainly written on the fly-leaf.

GENERAL INSTRUCTIONS.

102. Each observer in charge of a station not supplied with an assistant from this office will, as soon as practicable after arriving at his station, make arrangements with some competent person to perform his duties in case of sickness or disability. The person so selected must be carefully instructed in the use and care of the several instruments, in the manner of taking the observations, of making out and forwarding the weather-reports sent from the station, and the proper disposition of those received from other stations. His name and regular post-office address will be reported to this office as soon as the selection is made. The employment of this assistant will be temporary only, and he will be paid at the end of each month in which the services were rendered, at the rate of compensation fixed by the Chief Signal-Officer, on forwarding the proper vouchers to this office, with a certificate from the observer-sergeant stating the number of days employed, with the dates in each case.

103. In case of sickness or disability rendering an observer or assistant observer incapable of performing his duties, the observer in charge will report the fact by telegraph to the Chief Signal-Officer, and will forward by mail the certificate of his attending physician.

104. At stations where there is no medical officer a resident practitioner will be employed, whose account, made out in duplicate, on the form given below, together with the prescriptions when medicines have been required, will be transmitted for payment to the Surgeon-General of the Army, through the office of the Chief Signal-Officer, Washington, D. C.

105. No account of a resident practitioner other than a medical officer of the Army at any of the stations mentioned can be paid unless it shall clearly appear that the assistance of the medical officer designated could not be obtained in the special case. Should the medical officer be temporarily inaccessible upon the occurrence of a case so sudden and serious as to require immediate attention, he will nevertheless be called upon as soon as possible, and his certificate that the case required another practitioner to be employed under the circumstances will be necessary before the account of the latter can be paid.

106. An enlisted man obtaining medical assistance or medicines from other sources than a medical officer of the Army, when the latter can be called upon, will be personally responsible for the account therefor, such not being authorized by the United States.

107. Bills for articles of food, or diet of any kind, liquors, wines, mineral waters, patent or proprietary medicines; instruments or appliances, such as syringes, trusses, or suspensory bandages, will not be allowed by the Medical Department.

108. When the services of a nurse are necessary, a separate bill for the nursing will be made and certified in the same manner as that for medical attendance.

THE UNITED STATES,

To ——— ———, M. D., DR.

For medical attendance furnished to ——— ———, suffering from ——— at ——— from ——— to ——— .... $———

For medicines as per accompanying prescriptions .... ———

———

I certify that the above account is correct and just; that the services were rendered as stated and were necessary; and that the charges do not exceed those customary at this place.

——— ———, *M. D.*

Subscribed and sworn to before me this — day of ———, 187–.

——— ———,

——— ———.

I certify that the above account is correct and just; that the services were rendered as stated, and were necessary; that I was on duty at ———, and could not secure attendance from a medical officer of the Army.

——— ———,
Observer-Sergeant, Signal-Service, U. S. A.

Sworn to and subscribed before me this — day of ——, 187–.

——— ———,
——— ——.

Approved:

——— ———,
Brig. Gen. (Bvt. Ass'g'd) and Chief Signal-Officer of the Army.

When the attendance has been to an assistant the form will be altered accordingly and the account forwarded through the sergeant in charge, who will indorse his remarks upon it, and inclose in letter of transmittal to this office.

109. At stations where there is a medical officer of the Army on duty, observers wil be duly notified and provided with authority to call upon him for medical assistance When medicines are not furnished directly by the Medical Department, but through a druggist, on the prescription of a medical officer, and the bill of the druggist is presented to the patient, that bill in duplicate, approved by the medical officer and receipted, will be attached to an account made out in the name of the patient, the above form being altered according to the facts, and the only sworn certificate necessary being that of the patient.

110. At all stations where there is a private soldier on duty as an assistant, the observer-sergeant in charge will give especial attention to his instruction in the theory as well as the practice of meteorology, signaling, and telegraphy.

In order that this may be properly done, the sergeant will require his assistant to give a recitation each week from one of the following-named text-books, going through them in the order given: Loomis's Treatise on Meteorology, Myer's Manual of Signals Manual of Military Telegraphy, and the Instructions to Observer-Sergeants. The assistants will be required to understand thoroughly the first six chapters of Loomis, the Manual of Signals to page 96, and all of the other text-books, until satisfied that the subject is thoroughly understood, or that the assistant is wanting in capacity to understand it.

The ordinary station-work will be fully explained, and the reasons for each instrumental correction given in detail. A brief weekly report will be made to this office showing the nature of the instruction given and progress made during that period.

The character of recitations will be stated each week on Form 30, under the head of remarks.

This duty must be carefully and faithfully performed, in order that worthy men may receive the promotion due them, and unworthy ones be disposed of.

No application from assistant observers for promotion to the grade of sergeant will be favorably considered until this course of instruction has been completed in a satisfactory manner, and is so reported by the observer in charge.

111. Assistants on duty as printers will be required to make the same recitations as other assistants, and will be borne on the weekly return in the same manner.

112. In the absence of serious special reasons or exigencies of the service, no applications for examination before the board of examiners at this office for promotion to the grade of sergeant will be favorably considered, except when made by enlisted men of the Signal-Service Detachment, United States Army, who shall have performed satisfactorily the duty of assistant to an observer-sergeant on station, or similar duty at this office, for a period of six months, and have after recall from station gone through the regular course of instruction at Fort Whipple. Such applications, by men on duty as assistants, must be made in writing, through the observer-sergeant in charge of station, (who will in all cases indorse his report of the character, habits, and ability of the applicant,) and will be acted upon by the board when vacancies exist in the authorized number of observer-sergeants.

113. The publication of the Government weather-reports by newspapers must be done without expense to the United States.

114. In reference to the issue of weather-maps, observers at stations where they are issued must bear in mind that these maps are printed for gratuitous distribution, and neither money nor other form of compensation will be charged or received for them by any observer-sergeant or assistant observer, or their agents, either for the maps themselves or for their delivery, except when such delivery is made through the post-office at the request of the parties to whom they are addressed. In such cases the parties wishing to be supplied with maps will be required to furnish the observer sufficient money for the prepayment of postage upon them at the rate of one cent per copy. Observers must keep a careful account of all moneys received by them for this purpose, and make a weekly report of the same to this office, stating the name of the par-

ties and amount received from each, and the number of maps furnished during the week to each person.

115. The publication and distribution of weather-maps constitute only a part of the regular daily duty of each observer, and while they are expected to devote a liberal amount of time to this work, it must not be done to the prejudice of their other duties.

116. For the purpose of systematizing the distribution of maps, observers will divide the territory to be traversed into as many districts as there are assistants on duty at their respective stations. The boundaries of the district assigned to each assistant must be clearly defined; the time required to traverse it ascertained by the observer by actual trial, and the places for the delivery of each map distinctly pointed out to the assistant. Within the limits of these districts maps will be delivered regularly at the places and to the persons designated by this office, and to those selected by the observer with the approval of the chairman of the meteorological committee. Weekly reports will be made to this office of all additions to the lists of persons and places so selected.

117. All applications for maps from parties living beyond the district limits, referred to in the preceding paragraph, will be forwarded to this office for action, and if approved, maps will be furnished on personal application at the observer's office, or through the mail, as provided for in the first paragraph. This information will be posted up in the office of each observer printing and distributing maps.

118. Observers will select such places for posting the daily weather-bulletins and maps as will insure their widest publicity at all hours of the day and night, and will report the names and locations of the places thus selected to the Chief Signal-Officer. At the same time they will report the location of their own offices, giving name of street and number. This information will also be furnished to the manager of the telegraph-office charged with the transmission and receipt of the reports.

119. Observers must not make use of the telegraph in communicating with the central office in Washington, except in cases of the utmost importance. Where the use of the telegraph is considered unnecessary by the Chief Signal-Officer, the cost of the telegram will be charged against the observer sending it. The official form must always be used for telegraphic communications.

120. Communications to this office on official business will be written on the official size of letter-paper, inclosed in an official envelope, and directed to "The Chief Signal-Officer of the Army, Washington, D. C." The words "Official Business" will be written on the left-hand upper corner of the envelope.

121. Half sheets of paper will be used in all cases in which letters are completed on the first page. When more than one page is required a whole sheet will be used.

122. Communications written on letter-paper will be folded in three equal folds; on foolscap or legal-cap paper, in four equal folds, parallel with the ruling. Observers must not brief any official letter forwarded to this office, and must give the full names of all persons referred to.

123. All official communications received by observers, wherever serving, from parties not connected with the signal-service, will be immediately referred to this office for such action as may be considered necessary.

124. No letters containing information in reference to the signal-service will be made or sent to any person or persons by observers on station until such reports or letters have been submitted to and approved by the Chief Signal-Officer.

125. Observer-sergeants and their assistants will be especially neat and careful in their dress; and any negligence in this particular coming to the knowledge of the Chief Signal-Officer will be considered sufficient cause for the reduction of the offender to the rank of a private soldier.

126. All enlisted men on station, wherever serving, will be inspected in uniform, and inspecting officers will, in their reports, make special mention of the uniform of each man inspected, and will also make neglect of duty in connection with the uniform a subject of charges. The coat belonging to the uniform will be that described in General Order No. 92, War Department, Adjutant-General's Office, October 26, 1872. Men serving on stations may wear the forage-cap described in that order. Prompt requisition will be made for this uniform upon the property-officer of this office whenever necessary.

127. Observer-sergeants will not comprise in the same communication matters relating to different subjects, nor their meteorological observations and general details of duty, with those relating to property received or disposed of, communication or pay-vouchers, bills, or any other particular involving money or property accountability.

Letters of transmittal, application, or explanation, under these two general heads, must be written on separate sheets of paper, but may be sent in the same envelope as a matter of economy.

128. Upon the receipt of an order from this office to lower a cautionary signal that may have been displayed at any station, the observer will collect the necessary data

from mariners and others in reference to benefits, &c., derived from such display, and will report the same, together with comments that may have appeared in the papers, to this office. When the signal has not been justified the fact will be stated.

129. Observers will give close attention to the observation and record of all local premonitory signs of storms or changes of weather, and report them promptly to this office. The following points should be particularly noted: Direction and force of the wind; kind, direction, motion, and appearance of the clouds; action of the barometer and thermometer before, during, and after a storm or change of weather, and such other purely local causes as appear to influence the results.

130. The attention of observer-sergeants is directed to the fact that they are required to make their reports absolutely correct, and that any shortcoming in this respect renders them liable to punishment. Aside from this, it should be kept constantly in mind that a single incorrect report may cause the loss of life and property to an unknown amount, and all reports must be made with this responsibility clearly in view. Whenever an observer is unable from any cause to get in his report, properly corrected, at the regular hours of report, he will *not* send the uncorrected portion, but will write the word "Blank" in each of the spaces that would otherwise have been occupied by this portion of the report. Observers will *never* send any report or part of report which they have reason to believe is incorrect, and will bear in mind that it is safer and more in accordance with instructions to omit a report than to make a false one.

131. No official reports will be forwarded to this office without being carefully compared with the original records from which such reports are made. Observers having assistants will have the latter read the original matter, and the observer will check and correct the copies to be forwarded to this office, signing the reports only after he has thus assured himself of their *absolute correctness.* Special attention will be given to Form 22, and the several columns will be added up *twice*, both by the observer and assistant.

Observers without assistants will, if possible, procure some other person to assist in verifying their reports. All errors that may be discovered at the central office upon examination of the reports will be *checked* against the respective observers.

132. Upon the receipt of a circular at any station, the observer in charge will read it carefully and forward to this office a brief written synopsis of its provisions as understood by him. Where one or more assistants are on duty at a station the provisions of all circulars received will be carefully explained to each one. Whenever practicable this synopsis will be written on the margin of the printed form used to acknowledge the receipt of orders and circulars.

133. In the event of one or more instruments at a station becoming disabled and unfit for use, observers will fill up the space or spaces in the different forms intended for the readings of such instruments with the word "Blank," until they are repaired or replaced. If the instruments cannot be properly repaired at the station the observer will at once notify this office.

134. Observers are expected and required to improve themselves in the duties of their position, and are liable at any time after one year's service to be called before a board for their second regular examination.

135. On the first days of January and July (or within ten days thereafter) of each year, every observer-sergeant in charge of a station will make out and forward to this office a concise statement of the operation of his station for the preceding six months. This statement must show the changes (if any) that have been made, and the number of reports received, during that period, with the reason for such changes when known. It will also show the amount of public interest taken in the service, and the classes of citizens deriving the greatest amount of benefit from the reports. If any marked advantages to commercial or other interests have been derived from the use of the reports or display of cautionary signals, the facts in each instance will be briefly set forth.

136. Observers in charge of stations will mail, on Saturday of each week, a copy of that morning's issue of every daily newspaper published at their stations, which contain the weather-reports in any form.

137. All applications from observer-sergeants or assistant observers of the Signal-Service, United States Army, for furloughs or official privileges of any description, must be made directly to the Chief Signal-Officer of the Army.

138. The Secretary of War has power to grant discharges, which this office is authorized to promise when applied for on proper grounds, and at times when no special injury to the service would result therefrom; but as a rule no application for discharge will be favorably entertained until after two years of faithful service, and not then, except as above specified. In cases of urgent necessity such application may be made by telegraph, but in all ordinary cases will be in writing, and forwarded by mail.

139. All communications to this office from an assistant observer must be forwarded through and indorsed by the observer-sergeant in charge of the station at which he is serving.

140. Whenever any observer-sergeant is relieved from duty in charge of a station, he

will, before leaving said station, inform his successor of the location of all map-frames, bulletin-boards, and other Government property for which he is responsible to this office. He will also introduce him personally to the members of the meteorological committee or committees of the chamber of commerce and board of trade, and give him such information in reference to the past record of the station and its local meteorological and other peculiarities as will enable the duties of the station to be intelligently discharged by such successor.

A written statement that the provisions of this paragraph have been complied with will be made to this office by both observers.

141. Parties desiring to purchase maps from this office will be required to forward the amount of postage on the same, in addition to the cost price of the maps as given below.

I. The several varieties of the weather-maps will be sold at the following prices:

Maps in one color, without reports or isobaric lines, 1½ cents each.

Maps in two colors, without reports or isobaric lines, 2 cents each.

Maps on manifold paper, without reports or lines, in books of 100 each, $2.75 per book.

Maps in one color, with current reports and isobars, 2 cents each.

Maps in two colors, with current reports, isobaric and isothermal lines, 3 cents each.

Postage on each map one cent additional, except the manifold ones, on which it will be 28 cents per hundred.

II. Parties desiring copies of any of the following-named publications of this office will be supplied until further notice upon the receipt of the amount of postage on each, as follows:

Annual report	24 cents.
Circular on the practical use of meteorological reports and weather-maps	10 cents.
Monthly Weather Review	1 cent.
Weekly Chronicle	1 cent.

III. All communications in reference to the purchase of maps, whether containing money or not, must be forwarded to this office for action, and payment for maps must in all cases be made in advance and the money sent direct to the Chief Signal-Officer, Washington, D. C. Observers are not authorized to sell maps.

142. One copy of this table of prices will be kept posted in the observer's office for the information of the public.

143. Observers receiving money from individuals to be applied to the payment of postage on maps, bulletins, or other official publications issued by them, will keep a record of the amount received, and forward a weekly statement to the Chief Signal-Officer, showing the amount on hand at date of last report, amount received and expended since that date, amount remaining on hand, and names of parties from whom it was received, with such other information as may be necessary.

INSTRUCTIONS TO OBSERVER-SERGEANTS, SIGNAL-SERVICE, UNITED STATES ARMY, AT RECRUITING STATIONS.

144. I. Instructions have been issued by the War Department to the superintendent of the general recruiting service of the Army to direct the recruiting officers of that service, stationed at certain points, to enlist and order to report to this office such men who can pass the required physical examination as may be presented to them by the sergeants of the signal-service stationed at those points, which now are the following, viz: New York, Philadelphia, Baltimore, Cincinnati, Saint Louis, Boston, Buffalo, Chicago, Cleveland, Detroit, Indianapolis, and Louisville.

The observer-sergeants in charge of those stations will, accordingly, as part of their duties, endeavor to obtain and present selected recruits to the recruiting officer of the general recruiting service at the same city.

II. Instructions have also been issued by the War Department to the superintendent of the general recruiting service of the Army to direct the proper recruiting officers not to reject men presented for enlistment by the sergeants of the signal-corps, on account of shortness of stature, if such applicants are not less than five feet four inches in height, or on account of age, if such men are over thirty-five and under forty years of age.

III. No applicant will be presented for enlistment who shall not, in all other respects than as above specified, fulfill the requirements of the recruiting regulations, of which, and of such changes in them as from time to time are made, information will be obtained by inquiry of the recruiting officer, who will take such measures for physical examination as are usual in the recruiting service. The responsibility of the observer-sergeant will be confined to the selection of recruits for presentation.

IV. With reference to so much of paragraph 1 in each of circulars No. 17 and 18, dated respectively June 7 and July 1, 1873, from this office, as states that men under twenty-one years of age are not enlisted, it will be understood that while the enlistment of minors is in general to be discouraged, special exceptions may be made by this office. The act of Congress approved May 15, 1872, (published in General Orders 30, War Department, Adjutant-General's Office, series 1872,) does not prohibit the enlistment of men under twenty-one, who are over eighteen years old, when the written consent of the parent or guardian is properly given, but on the contrary, by necessary construction, sanctions such enlistments when no other objection exists. Should a case arise which, in the judgment of the observer-sergeant, renders an exception to the general rule desirable from the special fitness of the applicant, the latter may forward to this office his application, with the written consent of parent or guardian, on which the observer-sergeant will make a full indorsement of the reasons for recommendation. It is supposed that if this office should except the applicant from the operation of the part of the circulars above mentioned, the recruiting officer would not refuse enlistment on the ground of minority alone.

V. Applicants shorter than five feet four inches will not be presented to the recruiting officer, nor will applications from them be forwarded to this office with a view to their enlistment at the station; but such men may be informed that if they present themselves at this office in compliance with paragraph 2 of circular No. 18, dated July 1, 1873, and pass the examination therein referred to, and also that of the surgeon here, they will be recommended for special exception to the requirements regarding height, which will probably result in their enlistment at this office. The observer-sergeant will not encourage any men to take this course except such as in his judgment are exceptionally fit for this service, a statement to which effect, with the reasons therefor, he will indorse upon a written application in each case for the examination referred to, in which the applicant will clearly state his understanding that he takes upon himself all expense of coming before the board, without any expectation of reimbursement by the United States in any event. Such application, so indorsed, will be brought by the candidate in person for his identification.

VI. No request for exception to the result of the physical examination by the examining surgeon at a recruiting station will be entertained at this office, unless made by the applicant in writing through the surgeon and recruiting officer and forwarded by the latter.

VII. Applicants for enlistment will be divided by the observer-sergeant into two classes, viz: Those for the "full" and those for the "field signal-service," as hereinafter more fully explained, but for both classes it is expressly directed that a high standard shall be maintained, and great care taken not to present recruits who are of bad habits or character so as to cast discredit upon the service, or occasion useless expense to the United States. Special pains will also be given by the observer-sergeant that each applicant shall, before his presentation to the recruiting officer, fully understand for which of the two above-mentioned classes he enlists, with their several requirements, and the recruiting officer will be requested to note in the margin of the enlistment paper and also in the order directing the recruit to report to this office the proper designation of "full signal-service" or "field signal-service," as the case may be.

VIII. Applicants will be presented for the "full signal-service" who, in the judgment of the observer-sergeant, are fitted by education and intelligence for the full duties of the signal-service, including not only field-signals and telegraphy, but also the observation and report of storms, by telegraph and signal, and display of cautionary signals, for the benefit of commerce and agriculture, under the joint resolution of Congress approved February 9, 1870, the acts of Congress approved June 10, 1872, and March 3, 1873, and the authorization of the Secretary of War, and for such other duties as may be required in connection therewith. Only such will be selected as upon examination by the sergeant are able to read and write the English language, have some knowledge of arithmetic, and have sufficient intelligence to be capable in time of performing any of the duties required in the signal-service. The same proficiency required in the examination for assistants to observers will not, however, be insisted upon, as there will be opportunities for future improvement through study and the use of text-books which are provided at Fort Whipple, Va., to which post all the recruits will at first be ordered.

IX. Applicants who, in the judgment of the observer-sergeant, are not fitted by education and intelligence for the full duties of the signal-service, but who are of such ability and character as to render them qualified for the field duties of the signal-service, *i. e.*, those including field-signals and electric-telegraph, as distinguished from those including the observation and reports of storms, and display of cautionary signals, &c., will be presented to the recruiting officer for enlistment in the "field signal-service." The recruits so enlisted will not be precluded from eventual advancement to the full duties of the signal-service and promotion, in case they prove fit and worthy, but will not be considered as included, upon their enlistment, in the regulations in reference to examination, instruction, and other special provisions made for those recruits who may have been enlisted with special reference to the "full duties of the signal-service," *i. e.*, those embracing the observation and report of storms and display of cautionary signals.

They may, however, be subject to detail in any of the duties of the signal-service, in the discretion of proper authority.

X. A report of enlistments will be mailed to this office every Saturday, showing the enlistments made during the week, giving name of recruit, date of enlistment, name and rank of recruiting officer, "Enlisted for full signal-service," or, "Enlisted for field signal-service," as the case may be, and other particulars suggested by the form furnished, or which may be necessary for full information on the subject. In case a recruit shall have fair skill as a printer, carpenter, or blacksmith, (the enlistment of such men to be encouraged,) the fact will be noted opposite his name, in addition to the designation of "full" or "field" service. If no enlistment shall be made, or no applications received, the fact will be stated.

XI. Special attention will be directed to prevent any misunderstanding or complaint of misrepresentation regarding the requirements and duties of the signal-service and the terms of enlistment. The circulars from this office, Nos. 17 and 18, dated respectively June 7 and July 1, 1873, are designed to give full information on these subjects, and both of them will be in all cases exhibited to applicants for enlistment, the observer-sergeant truthfully explaining any portion which may not be understood, but not deviating from its terms. Circular No. 17 is explanatory of the "field" and No. 18 of the "full" service, and, after it shall be decided for which of these classes the applicant proposes to enlist and will be presented by the sergeant, the form at the end of the appropriate circular will be properly filled up, signed by the applicant, and witnessed by a disinterested person before the applicant shall be presented to the recruiting officer, and, if the enlistment shall be perfected, the circular so signed will be forwarded to this office with the next weekly report of enlistments. When more copies of the circular above mentioned or of the report of enlistments are needed, requisition will be made for them in the usual manner.

XII. Posters directing application to the observer-sergeant at each recruiting station will be furnished, which he will cause to be posted in proper places and in sufficient numbers, replacing those destroyed or obliterated, the expense of posting which will be paid from this office on his forwarding bills in the usual manner. Publication in newspapers at the station of a notice similar to the posters would prove of much greater value, but this office is not authorized to pay for advertisements. It is supposed, however, that out of interest in the service and in return for information given gratuitously to the press, some newspapers will, when requested by the observer, publish a proper notice, which will be procured, if possible, under a distinct understanding that it cannot be paid for.

XIII. A copy of these instructions, and also one of circulars Nos. 17 and 18, before referred to, as well as of any future instructions or circulars which may be issued on the subject, will be presented by the sergeant to the recruiting officer at the station, in order that he may fully understand the directions given by this office in reference to the execution of the instructions of the War Department, which, it is supposed, have been communicated to that officer by the superintendent of the general recruiting service.

PROPERTY.

145. Blank forms, entitled "Report of signal-service property," will be furnished each observer for making out a quarterly report of the property at his station, which report will be rendered at the expiration of the quarters ending, respectively, March 31, June 30, September 30, and December 31, of each year.

This report will be filled out in the following manner: All property received from this office, and purchased at the station by proper authority from this office, will be entered on the line containing the words "Total during quarter."

On the line headed "Issued and expended during the quarter" will be entered in the proper columns the total expenditures of forms, stationery, &c., consumed in performing the regular duties of the station during the quarter, with such articles as may have been returned to this office. These will be deducted from the amounts in the line beginning "Total during quarter," and the remainders brought down and entered on the line "Total on hand to be accounted for," which completes the *first* report from any station.

Each quarterly report will be made in duplicate, one copy to be transmitted to this office within ten days after the expiration of the quarter, and the other retained by the observer making it out, to enable him to bring forward for next report the "Total on hand to be accounted for," which will be entered in the next report as "On hand from last report."

No article will be entered in this report that is not invoiced from this office.

Every article taken up on this report must be entered under its proper heading, as the misplacement of a single figure may occasion serious difficulty. Before the report is sent in the two copies should be carefully compared, in order that they may be made to correspond exactly with each other.

146. Bills for all properly authorized improvements, repairs, or necessary work a the various stations of observation, *must* be forwarded so as to reach this office as nea the first day of the month succeeding that in which the work was done as is practicable.

147. It is required that bills for rents of offices, gas consumed, &c., be rendere monthly, and in every case where it is possible the observer is directed to procur such bills and forward them promptly on or before the expiration of each month.

148. Whenever any article of office furniture, fuel, or supplies of any descriptio whatever are purchased by an observer, under authority from this office, it will be entered on a copy of Form 6, as "received by purchase," with the name of the party furnishing it, properly dated and signed, and, accompanied by the memorandum bill o the same, will be forwarded to this office, by mail, *on the day* on which the purchas may be made.

149. All vouchers must contain the autograph signature of the party or firm in whos name they are made, and must in no instance be signed by a clerk or others for them except where necessity occasions the signing of a voucher by an attorney or agent, i which case that agent's power of attorney must accompany the voucher so signed.

150. When an observer is relieved from the charge of a station he will turn over, o proper invoices, to his successor all property and stores for which he is officially responsible, and will take duplicate receipts therefor, one copy of which he will retain and forward the other to this office with a final report, on the regular form, of th property for which he was accountable, at the date of his relief, made out in precisel the same manner as the regular quarterly report.

One copy of the invoice of property so transferred will be forwarded to this office b the observer taking charge.

151. When public property is receipted for by an observer he will make a careful examination of it, and forward a written report of the result of such examination t this office.

152. Observer-sergeants, or other enlisted men of the signal-service, receipting fo Government property, at a signal station or elsewhere, will be held personally responsible for such property; and to guard themselves against pecuniary loss will assur themselves by personal inspection that every article of property receipted for is actually at the station, and in the condition specified in the receipt.

153. Whenever any article of office-furniture, stationery, &c., is purchased by a observer, under proper authority from this office, it will be entered in a copy of For 6 as "Received by purchase," with the name of the party furnishing it, and a memorandum-bill of the price paid or to be paid, and forwarded to this office, properly date and signed, by mail on the day of purchase.

154. Authority must be obtained from this office for making all repairs and purchases at stations, except those enumerated in paragraph 119 of these instructions, an all applications for such authority must set forth the necessity for the expenditure, an state the estimated amount.

155. No public property will be used or labor employed by observers for any purpos whatever, without special authority from this office.

156. When any article of public property, not of an expendable nature, for which a observer is responsible, becomes unfit for service, from any cause whatever, he wil report the facts in the case to this office, but will not drop such article from his return until authorized to do so.

157. Observers will endeavor, by timely repairs, to keep all property for which the are responsible in serviceable condition, and necessary funds for this purpose will b provided, upon satisfactory requisition and estimates forwarded to the property an disbursing officer.

158. If any article of public property be lost or damaged, through the neglect o fault of any observer or assistant, the money value thereof will be stopped against hi monthly pay.

159. A rigid economy must be practiced by all observers in the expenses of their several stations, and all irregularities and extravagances will be promptly corrected b charging all excesses to the observers at fault.

160. The following articles will be allowed at each station, and may be purchased a the prices named by each observer without other authority:

One room for the performance of his duties will be rented by the month, at eac station, but no more than eighteen dollars per month will be paid therefor withou special authority from this office; one desk, (price not to exceed $20;) one table, wit drawers, (stained pine, and not to exceed $6;) one wash-stand, (at a price not exceeding $2;) four chairs, (not to exceed $2.25 each;) one stove, with pipe, (not to excee $25;) one coal-scuttle; one fire-shovel; one water-bucket; one cup or dipper; on goblet; one basin; one large lamp; one oil-can; one dust-pan and brush; one broom two common spittoons; one lantern. The above-named articles must be of a cheap plain, and substantial kind. Memorandum-bills (unreceipted) for rent, labor, and pur chases will be sent to this office as soon as presented, and will be settled at the earliest opportunity.

161. Upon the shipment of any article of property which may be ordered to be turned in to this office, by express, observers are directed to procure from the express-agent at their stations receipts in duplicate for the package or box, and forward them to this office by mail on the date of shipment.

162. Memorandum-bills for labor and for articles purchased must be sent in separately.

163. Fuel will be purchased for heating office, by each observer, at the current market rates, and bills forwarded to this office for settlement. The cost of carrying coal and other fuel to the observer's office will be included in the price of the fuel, and not charged as a separate item.

164. The pay and allowances of observer-sergeants and enlisted men serving as assistant observers are obtained from three different sources, and will be drawn through the property and disbursing officer of the Signal-Service, United States Army, at the end of each month, on the receipt at this office of the following blanks, signed in duplicate:

1st. Form 5—Pay Department:

(FORM 5.)

The UNITED STATES,

To JOHN THOMPSON, Dr.

	Dollars.	Cents.
For pay from 1st of ——, 187-, to —— of ——, 187-, being —— months, —— days, at —— dollars per month..........		
Amount		
Deduct for Army Asylum .... $——		
Due United States for clothing overdrawn .... ——		
Due United States for tobacco .... ——		
Balance		

Received of —— ——, Paymaster United States Army, this —— day of ——, 187-, —— $\frac{}{100}$ dollars, in full of the above account, by check No. ——, on —— United States Treasurer, ——, this date, for $——.

JOHN THOMPSON,

(Signed in duplicate.) *Sergeant Signal-Service, U. S. A.*

This payment accords with the soldier's descriptive list, and is noted thereon.

——,

Paymaster U. S. A.

2d. Form Y—Commissary Department:

(FORM Y.)

The UNITED STATES,

To JOHN THOMPSON, *Sergeant Signal-Service, U. S. A.*, Dr.

	Dollars.	Cents.
For commutation of rations while on extra duty as ——, at ——, from —— to ——, 187-, inclusive, —— days, at 75 cents per day		

I certify that the above account is correct and just; that the commutation was mad by order of the Secretary of War, and was necessary for the public service, there bein no opportunity for messing.

———,
———.

Received at ———, this ——— day of ———, 187–, from———, C. S. United State Army, the sum of ——— dollars and ——— cents, in full of the above account.

JOHN THOMPSON,
Sergeant Signal-Service, U. S. A.

(Signed in duplicate.)

3d. Signal-Service Receipt-Roll—Quartermaster's Department.

(Voucher to Abstract B.)

(FORM No. 13.)

The UNITED STATES,

To ——— ———, DR.
——— *Signal-Service, U. S. A*

On extra duty as ———, at ———.

	Dollars.	Cents.
For extra-duty pay from ——— to ———, 187–, inclusive, ——— days, at ——— per day.		
For commutation of fuel from ——— to ———, 187–, ———, at $——— per month....		
For commutation of quarters from ——— to ———, 187–, ———, at $——— per month.		

I certify that the above account is correct and just; that the services were rendered as stated; that they were necessary for the public service, and are borne on my roll o extra-duty men, (Form 3,) for the month of ———, 187–, and that no fuel and quarter in kind have been furnished.

———, ———.
A. A. Q. M., Signal-Service.

Received at Washington, D. C., the ——— day of ———, 187–, of ——— ———, quartermaster, United States Army, the sum of ——— dollars and ——— cents, in full o the above account.

JOHN THOMPSON.

(Signed in duplicate.)

These vouchers will be signed by observers and their assistants, one set by eac man, exactly as shown in the above illustration.

165. *No part of the body or receipt of either form will be filled up before transmission*, and they must be forwarded direct to this office at such time as will insure their receipt b the property-officer before the 20th of each month.

166. *Observers will not be allowed to sell or otherwise dispose of any of the above-mentioned accounts, nor will they be permitted to draw upon this office, or any of the officers connected therewith, without special authority.*

167. The following tables show the amount of monthly pay to be received by observer and their assistants, for the different years of service, and the sources from which it i received:

Estimate of monthly pay proper and clothing allowance.

FOR SERGEANTS.

Year of enlistment.	Pay proper.	Stoppages, retained pay, and Soldiers' Home.	Amount paid.	Amount retained each month.		Total amount due each month.
				Clothing allowance.	Retained pay.	
1	$17 00	$0 12	$16 88	$7 60	....	$24 4
2	17 00	13	16 87	4 66	....	21 5
3	18 00	1 12	16 88	5 94	$1 00	23 8
4	19 00	2 13	16 87	4 66	2 00	23 5
5	20 00	3 12	16 88	5 08	3 00	24 0

FOR PRIVATES, FIRST CLASS.

1	$13 00	$0 12	$12 88	$7 38		$20 26
2	13 00	13	12 87	4 54		17 41
3	14 00	1 12	12 88	5 78	$1 00	19 66
4	15 00	2 13	12 87	4 54	2 00	19 41
5	16 00	3 12	12 88	4 87	3 00	20 75

FOR PRIVATES, SECOND CLASS.

1	$13 00	$0 12	$12 88	$7 29		$20 17
2	13 00	13	12 87	4 52		17 39
3	14 00	1 12	12 88	5 75	$1 00	19 63
4	15 00	2 13	12 87	4 52	2 00	19 39
5	16 00	3 12	12 88	4 85	3 00	20 73

The amount retained—$1 each month from pay of third year, $2 from fourth year, and $3 from fifth year—will not be paid until final discharge from the service, and will be forfeited unless the soldier shall have served faithfully to date of discharge.

The pay per month of a soldier re-enlisting after five years' service will be that of the fifth year of his former term, less $1 retained pay. He will also receive $2 per month additional for re-enlistment.

Clothing allowance per month.

Rank.	First year.	Second year.	Third year.	Fourth year.	Fifth year.	Total for five years.
Sergeant	$7 60	$4 66	$5 94	$4 66	$5 08	$335 28
Private, first class	7 38	4 51	5 78	4 54	4 87	325 32
Private, second class	7 29	4 52	5 75	4 52	4 85	323 16

But no clothing allowance will be paid the soldier except on "final statements." When clothing is drawn, if the allowance is exceeded it will be settled by the soldier on the 30th June and 31st December of each year.

Monthly estimate of quartermaster.

No. of days in the month.	Fuel—rate per month.	Quarters—rate.	Extra pay—rates.	Total.
28	$8 00	$10 00	$10 15	$28 15
30	8 00	10 00	10 50	28 50
31	8 00	10 00	10 85	28 85

Assistants are not allowed extra-duty pay.

Monthly estimate of commutation of rations.

No. of days in the month.	Rate per day.	Total.
28	$0 75	$21 00
30	75	22 50
31	75	23 25

Estimate of monthly pay of sergeants (observers) and privates (assistants).

SERGEANTS—FIRST YEAR.

No. of days in the month.	Pay proper.	Quartermaster's Dept., pay.	Commissary, pay.	Amount of pay received monthly.
28	$17 00	$28 15	$21 00	$66 15
30	17 00	28 50	22 50	68 00
31	17 00	28 85	23 25	69 10

SECOND YEAR.

28	$17 00	$28 15	$21 00	$66 15
30	17 00	28 50	22 50	68 00
31	17 00	28 85	23 25	69 10

THIRD YEAR.

28	$18 00	$28 15	$21 00	$67 15
30	18 00	28 50	22 50	69 00
31	18 00	28 85	23 25	70 10

One dollar per month retained until discharged.

FOURTH YEAR.

28	$19 00	$28 15	$21 00	$68 15
30	19 00	28 50	22 50	70 00
31	19 00	28 85	23 25	71 10

Two dollars per month retained until discharged.

FIFTH YEAR.

28	$20 00	$28 15	$21 00	$69 15
30	20 00	28 50	22 50	71 00
31	20 00	28 85	23 25	72 10

Three dollars per month retained until discharged.

PRIVATES.—FIRST YEAR.

No. of days in the month.	Pay proper.	Quartermaster's Dept., pay.	Commissary, pay.	Amount of pay received monthly.
28	$13 00	$18 00	$21 00	$52 00
30	13 00	18 00	22 50	53 50
31	13 00	18 00	23 25	54 25

SECOND YEAR.

28	$13 00	$18 00	$21 00	$52 00
30	13 00	18 00	22 50	53 50
31	13 00	18 00	23 25	54 25

THIRD YEAR.

28	$14 00	$18 00	$21 00	$53 00
30	14 00	18 00	22 50	54 50
31	14 00	18 00	23 25	55 25

One dollar per month retained until discharged.

FOURTH YEAR.

28	$15 00	$18 00	$21 00	$54 00
30	15 00	18 00	22 50	55 50
31	15 00	18 00	23 25	56 25

Two dollars per month retained until discharged.

FIFTH YEAR.

28	$16 00	$18 00	$21 00	$55 00
30	16 00	18 00	22 50	56 50
31	16 00	18 00	23 25	57 25

Three dollars per month retained until discharged.

In addition to the above rates of pay, enlisted men will receive the usual allowance for first, second, third, and fourth re-enlistments.

168. All useless and broken instruments will be forwarded to this office and carefully packed.

169. All instruments or public property of any character whatever, returned to this office by observer-sergeants, or other enlisted men of the signal-service, must have a tag or slip of paper securely attached thereto, indicating the station whence it comes, marked—"Returned from ———, under instructions from O. C. S. O., of date ———."

170. Timely requisition will be made upon the property-officer for books of record, stationery, forms, &c., to insure their receipt before the supply on hand is exhausted.

171. Requisitions for forms and stationery will be made quarterly by mail, and will embrace all the different varieties required for use at stations.

172. In consequence of the abolition of the franking privilege the postage on all official matter transmitted through the mails on and after the 1st day of July, 1873, must be prepaid by postage-stamps.

To enable observers to give compliance to this requirement they will be furnished for official use stamps of different denominations. A weekly return of stamps received and expended will be made on the regular blanks and forwarded weekly to this office. These returns must be made promptly at the expiration of each week, showing how many of each denomination of stamps are on hand at the closing of the last mail of the week; a copy of the return to be retained by the observer in each instance. A memorandum-book furnished for this purpose will be kept, in which will be noted each package or letter mailed, stamped with the official stamp, entering therein the addresses and the number and denomination of stamps used on each and every piece of official mail-matter transmitted; this data will be kept up to enable observers to make reports to the central office as to the exact disposition of the stamps, which report is liable to be called for at any moment.

SPECIAL INSTRUCTIONS.

In case of actual or anticipated neglect or refusal on the part of the employés of any telegraph company by which he is directed to transmit telegraph communications, at the time and in the manner stated in the orders of the Chief Signal-Officer to the observer in charge of a station, then in force, he will proceed as follows:

1. He will prepare every telegraphic communication according to his instructions, and present each, at the time designated, at the proper office of the company for the reception of such communications. He will continue to present all reports, as to the regular tender of which the company has once been advised, until it has been notified by this office that such tender will cease after a certain date, of which notice the observer will be informed.

2. He will, in advance of the presentation of all telegraphic communications, give specific notice to the company, during its usual hours of business, that an official communication of a certain-mentioned character, from the observer, addressed to a certain official person or persons, (the address to be specified,) will, at a certain subsequent hour, (stating what hour,) be presented at the office of the company for telegraphic transmission. This notice will provide for every regular report to be made during the ensuing twenty-four hours, and also will be given in advance of any special communication, when practicable. Such notice will be in writing, addressed to the local manager of the company, and will be delivered, open, to the officer or employé of the company who may be in charge of the local office at the time of delivery. The written notice will be signed in duplicate by the observer, and one copy filed and retained by him. The following general form will be observed:

"SIGNAL-SERVICE, UNITED STATES ARMY,
"*Observer's Office*, ——, ——, 187—.

"To —— ——,
"*Manager of the Telegraph Company at* ——:

"SIR: As an agent of the War Department for the purpose of taking meteorological observations, in pursuance of the laws of the United States, and of preparing telegraphic communications relating thereto, and of presenting the same for transmission to telegraph companies, I have the honor to give notice hereby that, in accordance with orders received by me to that effect, I will present at the office of the above-mentioned telegraph company at this place, severally, at the times hereinafter mentioned, certain official communications from myself, in my official capacity, and addressed as specified, viz:

"One communication will be presented at —— o'clock — minutes —. m of —— the —— day of ——, 1872, addressed to —— ——.

"One communication will be presented at —— o'clock — minutes —. m of —— the —— day of ——, 1872, addressed to —— ——.

"One communication will be presented at —— o'clock — minutes —. m of —— the —— day of ——, 1872, addressed to —— —— ——.

"I have the honor to request that the communications above referred to may be received and transmitted telegraphically by the said company to their respective addresses at the times above mentioned, at which they will severally be presented for that purpose.

I am, sir, respectfully yours, &c.,

"—— ——,
"*Observer-Sergeant, Signal-Service, U. S. A.*"

He will also record the time, place, and person, when, where, and to whom he delivered such notice, and reduce to writing any oral reply made or action taken. The record must be dated, timed, and made, plainly written, immediately after the service of the notice.

3. He will present his regular reports for transmission at the times, and as directed in his schedule, at the telegraph-offices, until further orders, whether or not the company has any employés then present whose usual duty it is to receive them. If the office is open for his admission, although closed for the transmission of messages, the communication should be presented to the most responsible person present in the employ of the company, a copy being always retained, and record made as above directed. If the office appears to be closed, he will make himself sure of the fact that it is so.

In writing the message for transmission the observer will not use any form imposing terms or the limitations of a contract, but will write the communications tendered on the form directed by this office.

4. He will keep a written record of the time when, place where, and the name of person employed by the company, to whom each communication was presented. In

case the office was closed, so that the communication could not be presented to any employé of the company, he will record the time and place with the fact. If any employé of any telegraph company refuses to receive the message presented to him, it will be sufficient to have made the tender, and to preserve such record as will establish the fact that it was made. The records, in all cases, must be dated and timed, and must be made, plainly written, immediately after the tender of the message. It should rehearse all facts which may tend to keep his memory of the transaction complete.

It is desirable, though not essential, that on some of the occasions when the above-mentioned notice is delivered, as well as when the message is tendered, the observer should, if practicable, take with him another person, wholly disinterested, who may serve as an additional witness of the transaction.

Should the officer or employé in charge of the telegraph office inform the observer generally that he will not in future be admitted to the office at all, he will not, on that account, discontinue giving notice or making tenders, but will give and make, or attempt to give and make, them precisely as before.

The construction of the laws defining the relations of telegraph companies to the United States, which is held by this office, is that the companies are bound to give unconditional priority to telegraphic communications between the several departments of the Government of the United States, and between their officers and agents; that after due notice to that effect the companies are required to transmit such communications at any hour when they are tendered for that purpose, and that prepayment is not required from the Government or its agents.

All the telegraph companies by which the messages of the signal-service have hitherto been sent, according to directions given to the observers, have accepted the provisions of the act of Congress approved July 24, 1866, a copy of which, and of other acts bearing upon the subject, is hereto appended.

AN ACT to aid in the construction of telegraph lines, and to secure to the Government the use of the same for postal, military, and other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That any telegraph company now organized, or which may hereafter be organized, under the laws of any State in this Union, shall have the right to construct, maintain, and operate lines of telegraph through and over any portion of the public domain of the United States, over and along any of the military or post roads of the United States which have been or may hereafter be declared such by act of Congress, and over, under, or across the navigable streams or waters of the United States: *Provided,* That such lines of telegraph shall be so constructed and maintained as not to obstruct the navigation of such streams and waters, or interfere with the ordinary travel on such military or post roads. And any of said companies shall have the right to take and use from such public lands the necessary stone, timber, and other materials for its posts, piers, stations, and other needful uses in the construction, maintenance, and operation of said lines of telegraph, and may pre-empt and use such portion of the unoccupied public lands subject to pre-emption, through which its said lines of telegraph may be located, as may be necessary for its stations, not exceeding forty acres for each station; but such stations shall not be within fifteen miles of each other.

SEC. 2. *And be it further enacted,* That telegraphic communications between several departments of the Government of the United States and their officers and agents shall, in their transmission over the lines of any of said companies, have priority over all other business, and shall be sent at rates to be annually fixed by the Postmaster-General.

SEC. 3. *And be it further enacted,* That the rights and privileges hereby granted shall not be transferred by any company acting under this act to any other corporation, association, or person: *Provided, however,* That the United States may at any time after the expiration of five years from the date of the passage of this act, for postal, military, or other purposes, purchase all the telegraph lines, property, and effects of any or all of said companies, at an appraised value, to be ascertained by five competent, disinterested persons, two of whom shall be selected by the Postmaster-General of the United States, two by the company interested, and one by the four so previously selected.

SEC. 4. *And be it further enacted,* That before any telegraph company shall exercise any of the powers or privileges conferred by this act, such company shall file their written acceptance with the Postmaster-General of the restrictions and obligations required by this act.

Approved July 24, 1866.

[PUBLIC RESOLUTION—No. 9.]

JOINT RESOLUTION to authorize the Secretary of War to provide for taking meteorological observations at the military stations and other points in the interior of the continent, and for giving notice on the northern lakes and seaboard of the approach and force of storms.

Be it resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of War be, and he hereby is, authorized and required to provide for taking meteorological observations at the military stations in the interior of the continent, and at other points in the States and Territories of the United States, and for giving notice on the nothern lakes and on the seacoast, by magnetic telegraph and marine signals, of the approach and force of storms.

Approved February 9, 1870.

[General Orders No. 18.]

WAR DEPARTMENT,
OFFICE OF THE CHIEF SIGNAL-OFFICER,
Washington, D. C., July 3, 1872.

The following order of the Secretary of War, having been received by the Chief Signal-Officer of the Army, is published for the information of all concerned:

"WAR DEPARTMENT,
"*Washington City, June* 27, 1872.

"The Chief Signal Officer of the Army is hereby directed and ordered to carry into effect the special duties imposed upon the Secretary of War by the act of Congress approved July 24, 1866, entitled 'An act to aid in the construction of telegraph lines and to secure to the Government the use of the same for postal, military, and other purposes,' and by the public resolution No. 9, approved February 9, 1870, and entitled 'Joint resolution to authorize the Secretary of War to provide for taking meteorological observations at the military stations and other points in the interior of the continent, and for giving notice on the northern lakes and seaboard of the approach and force of storms,' and by the act approved June 10, 1872, entitled 'An act making appropriations for sundry civil expenses of the Government for the fiscal year ending June 30, 1873, and for other purposes;' and the said Chief Signal-Officer of the Army, and all such persons as have been or shall be designated and employed by him for the taking of meteorological observations, or for preparing or presenting telegraphic communications for transmission, or for transmitting the same, are hereby recognized and appointed as agents of the War Department for those purposes, and are hereby authorized and directed by and in behalf of said Department to offer to any telegraph company in the United States for transmission any and all such telegraph communications as they may be required by the Chief Signal-Officer to make, and to request the transmission thereof by such company or companies, at such times, and in such places, as may be directed by said officer.

"WM. W. BELKNAP,
"*Secretary of War.*"

By order of the Chief Signal-Officer of the Army.

GARRICK MALLERY,
Capt. and Bvt. Lieut. Col., U. S. A.,
Acting Signal-Officer and Assistant.

AN ACT making appropriations for sundry civil expenses of the Government for the fiscal year ending June thirtieth, eighteen hundred and seventy-three, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated for the objects hereinafter expressed, for the fiscal year ending June thirtieth, eighteen hundred and seventy-three, viz:

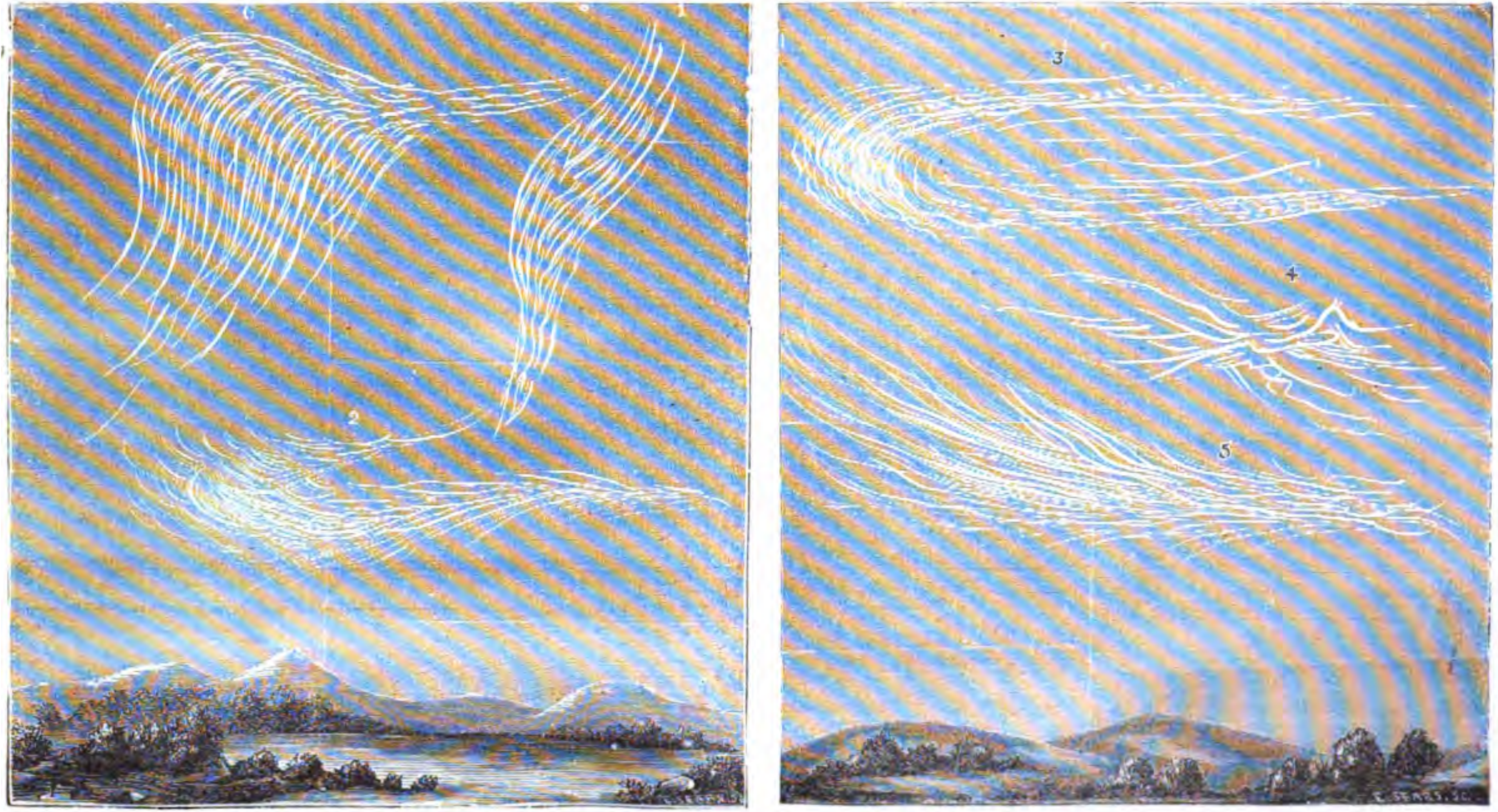
* * * * * * *

UNDER THE WAR DEPARTMENT.

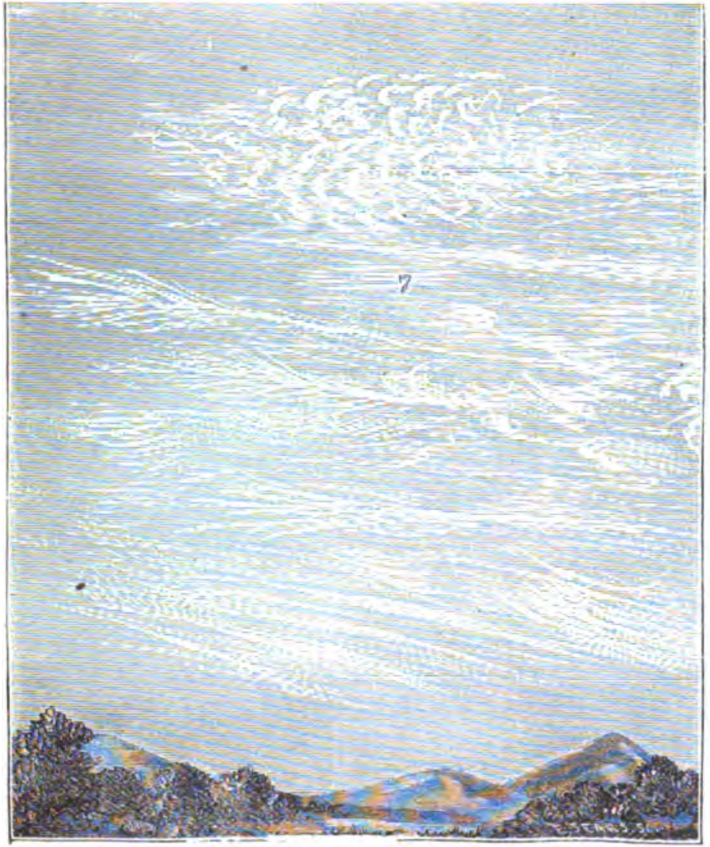
* * * * * * *

SIGNAL-OFFICE.

For manufacture, purchase, or repair of meteorological and other necessary instruments; for telegraphing reports; for expenses of storm-signals announcing probable approach and force of storms throughout the United States, for the benefit of commerce and agriculture; for instrument-shelters; for hire, furniture, and expenses of offices



CIRRUS (HOWARD) CURL-CLOUDS.—More than six and one-fourth miles in altitude. Figs. 1 and 2, cat's tails; figs. 3 and 4, twisted tufts; fig. 5, plumage; fig. 6, horse's tail.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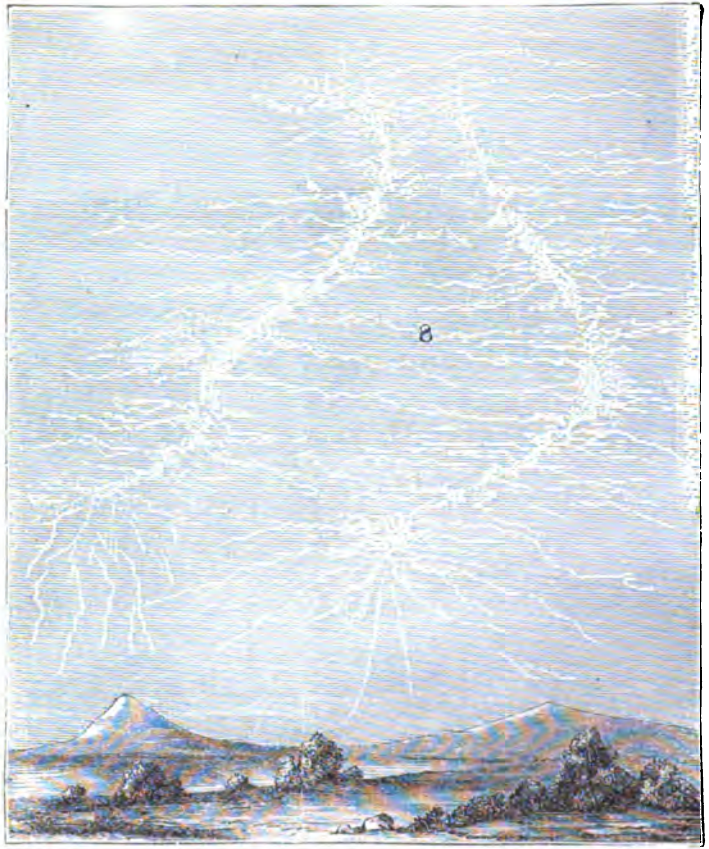
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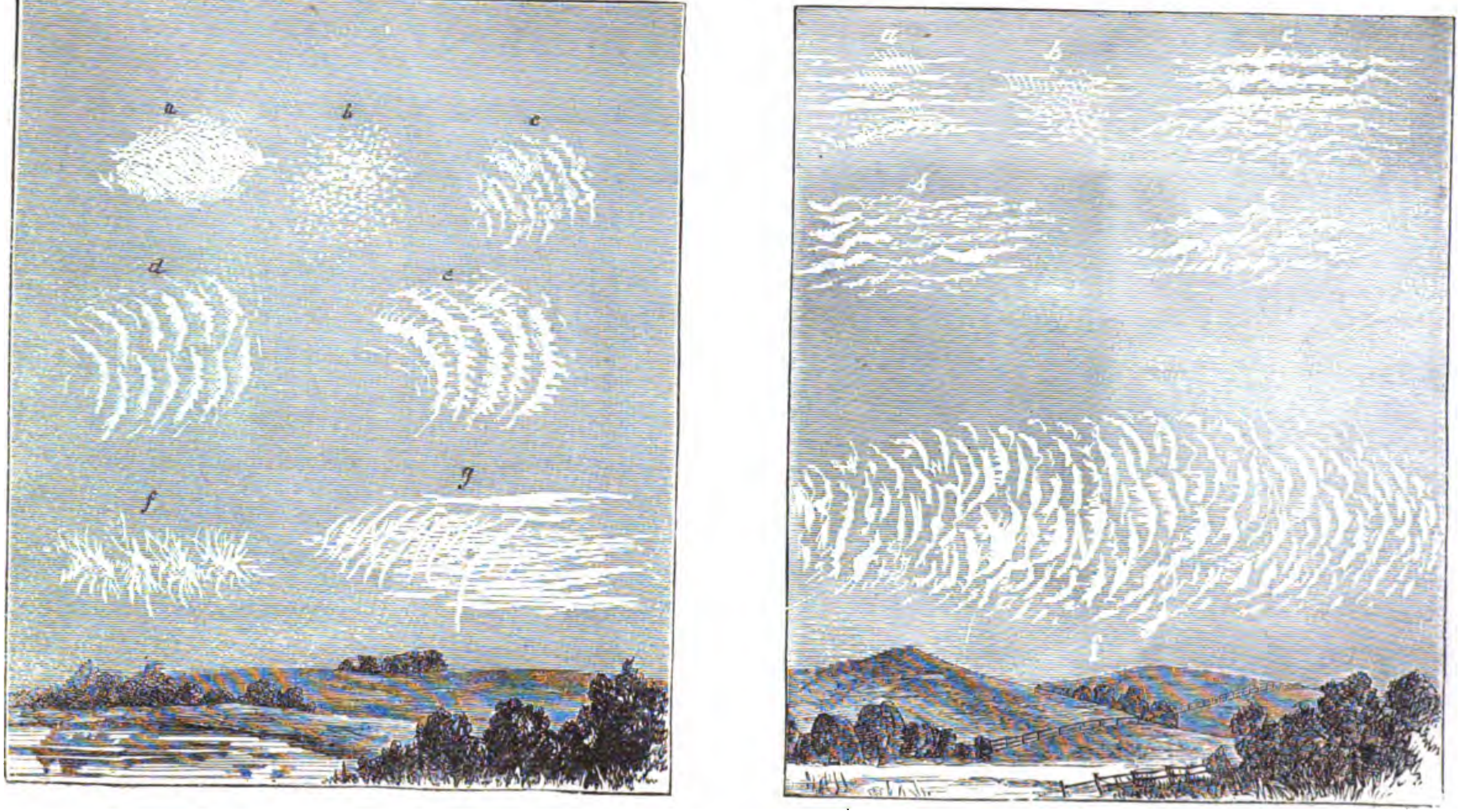
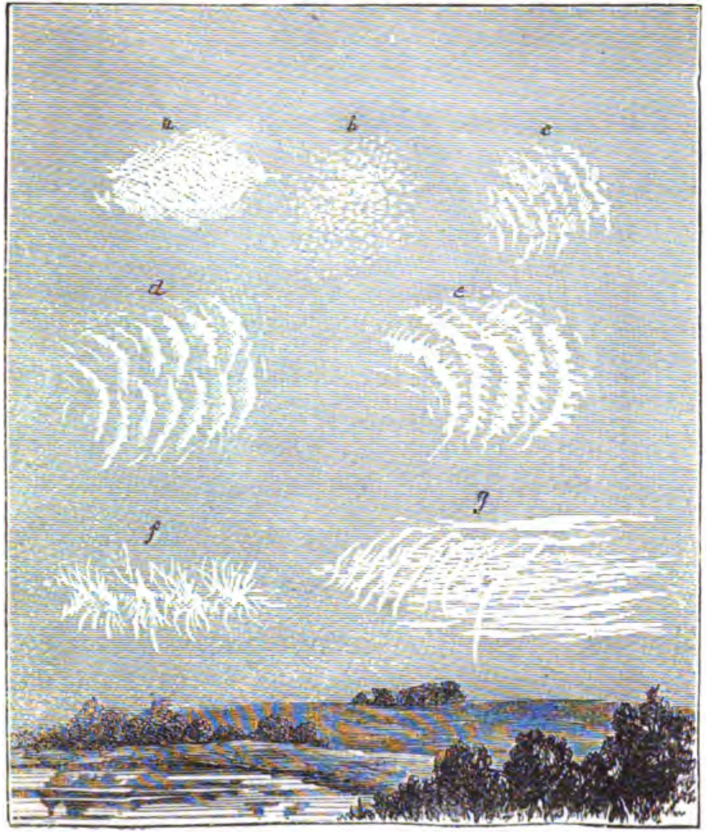


CIRRO-STRATUS (HOWARD) ICE-CLOUDS.—*a*, *b*, *c*, *d*, *e*, partial formation; *f*, perfect formation; *a*, *b*, *c*, *d*, *e*, *f*, *g* nascent formation.

ILLUSTRATION OF CLOUDS.

No. V.



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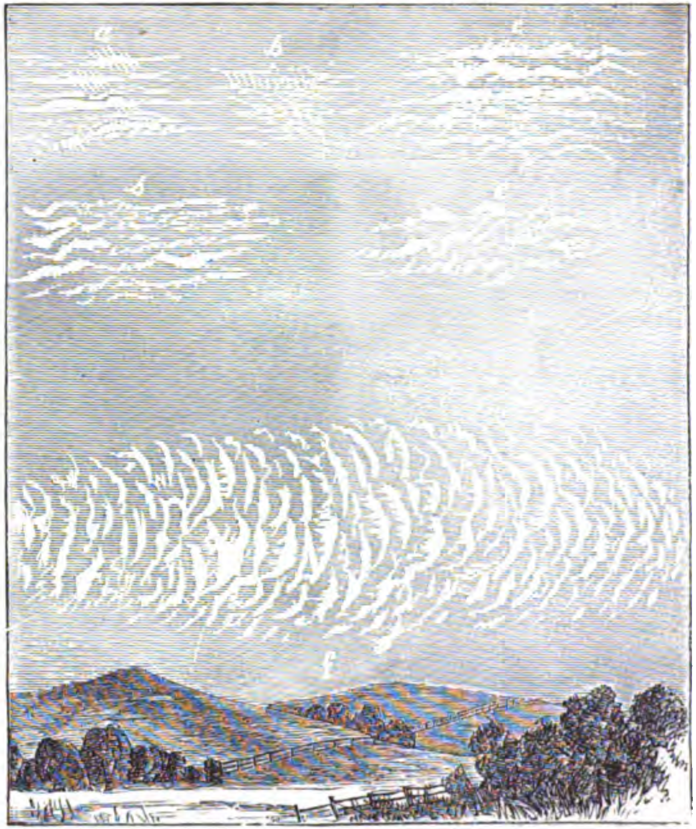
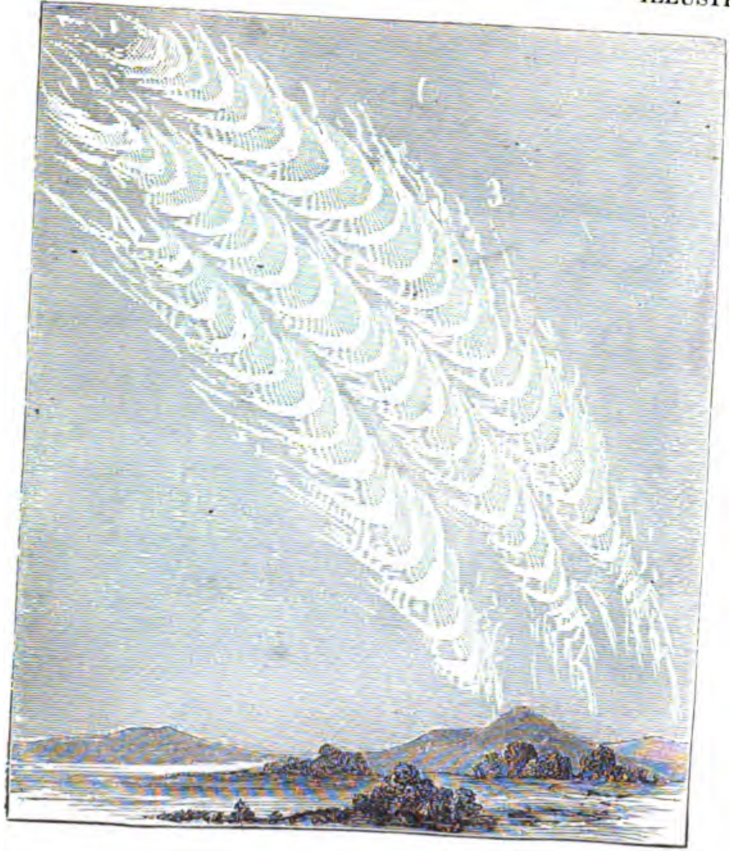
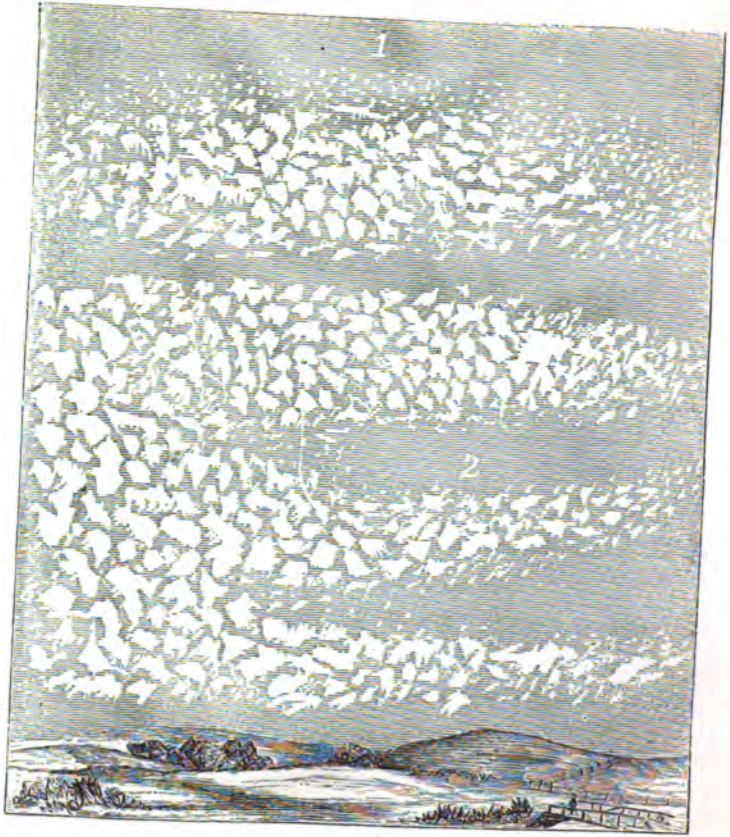


ILLUSTRATION OF CLOUDS.

No. VIII.

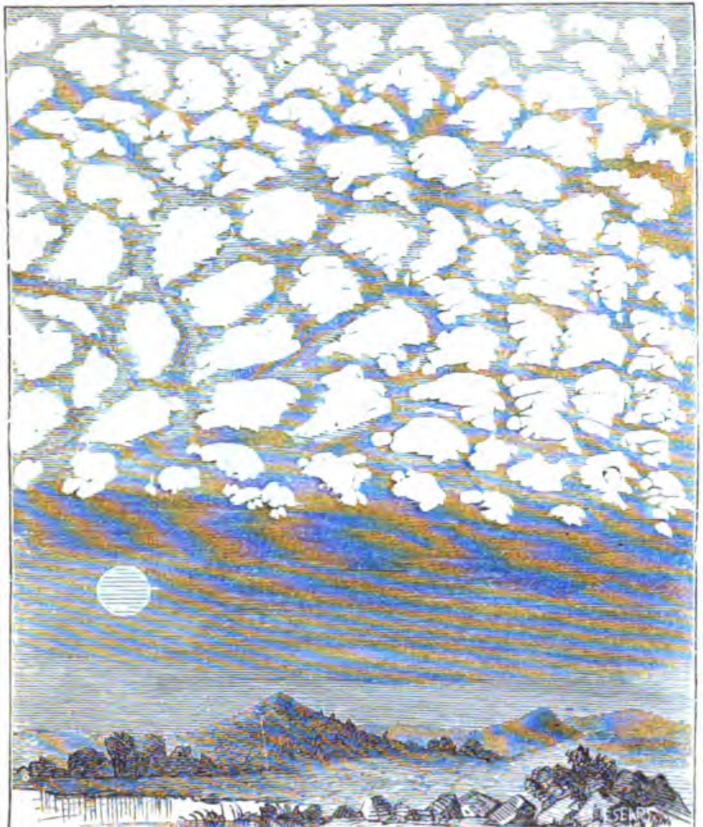




CIRRO-CUMULUS (HOWARD) CURDLED SKY. Fig. 1

ILLUSTRATION OF CLOUDS.

No. IX.



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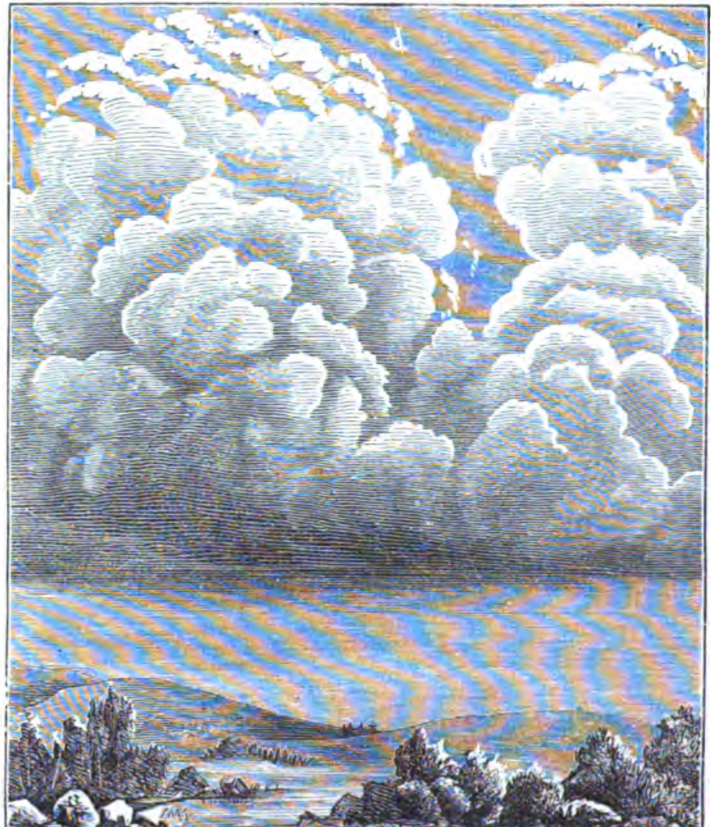
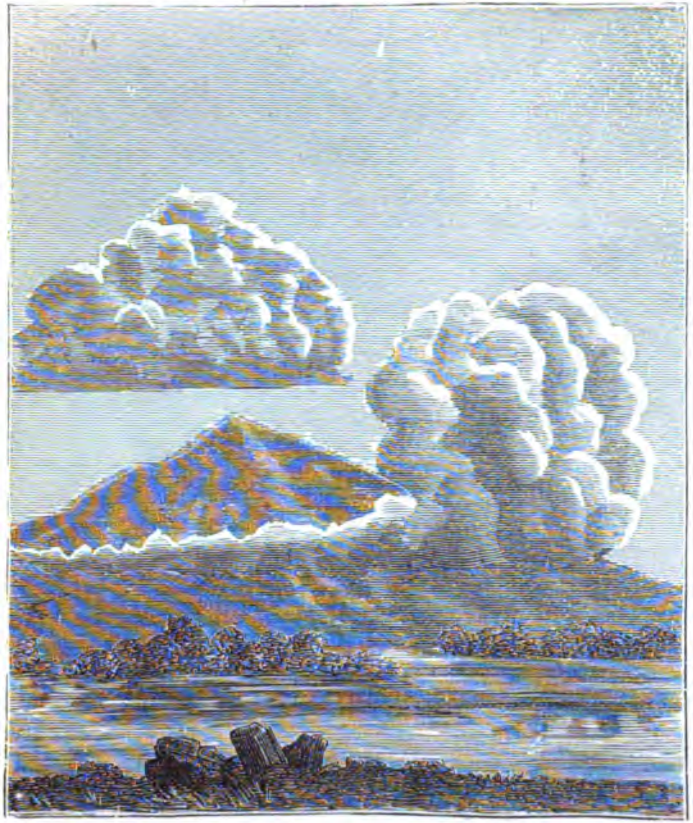


ILLUSTRATION OF CLOUDS.

No. XI.



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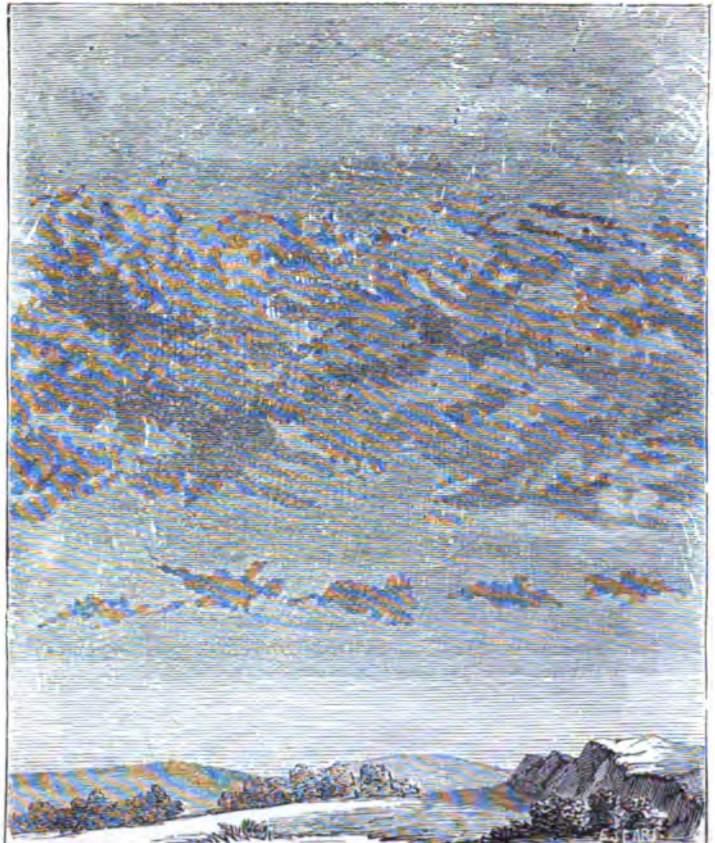
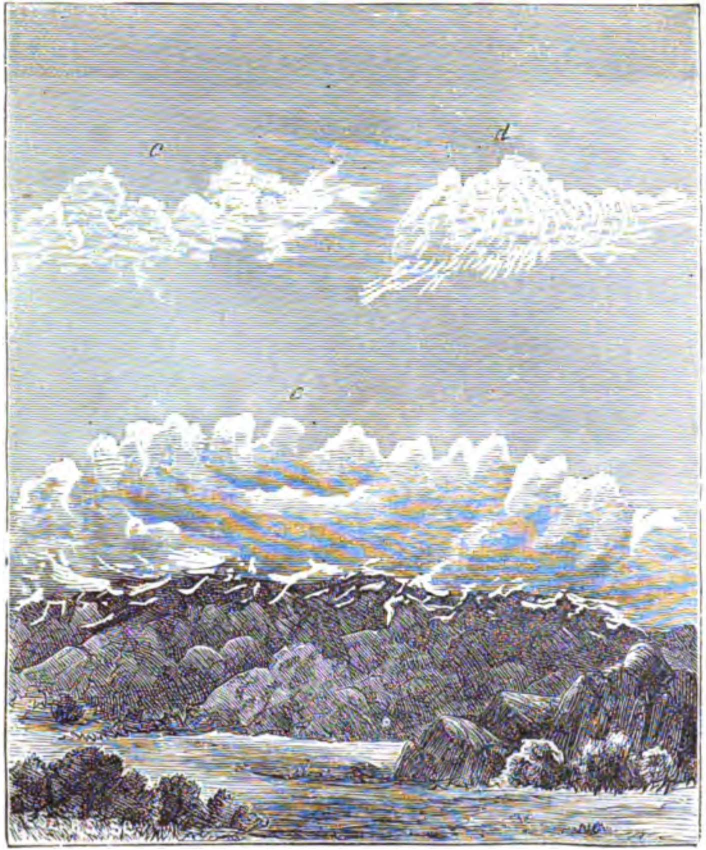
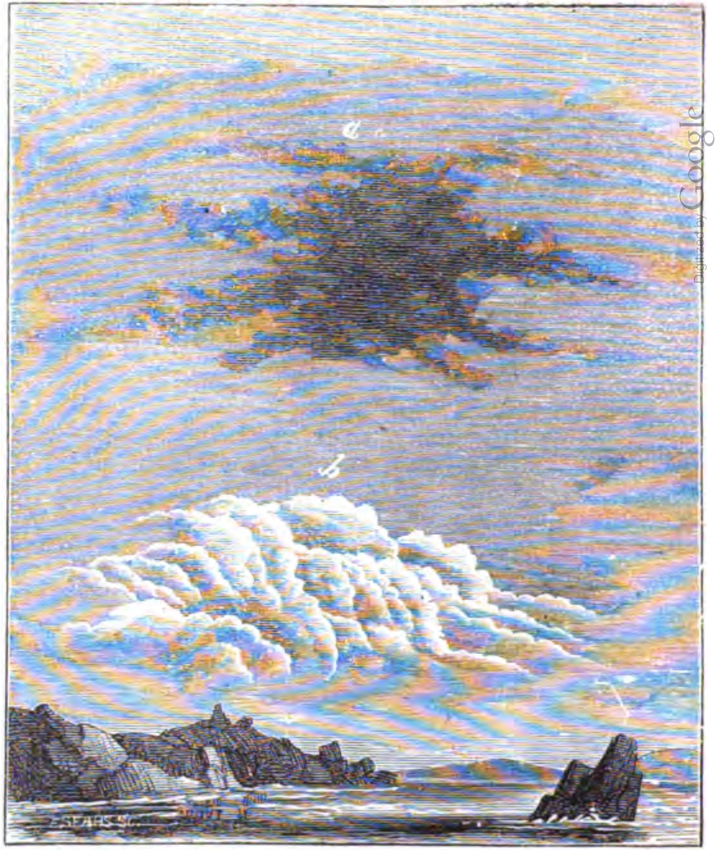
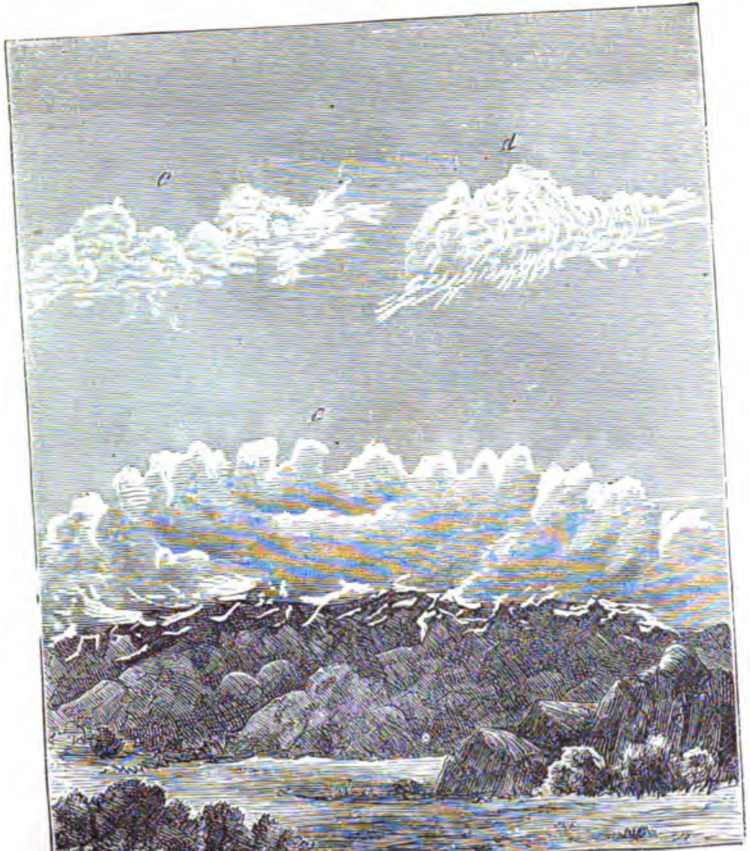
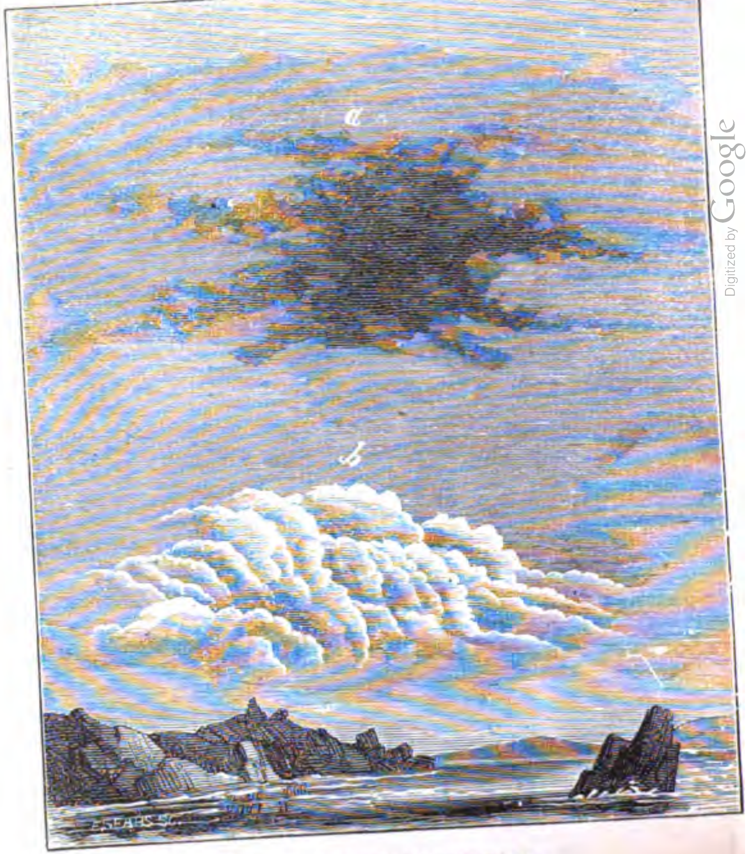


No. XIII. ILLUSTRATION OF CLOUDS. No. XIV.

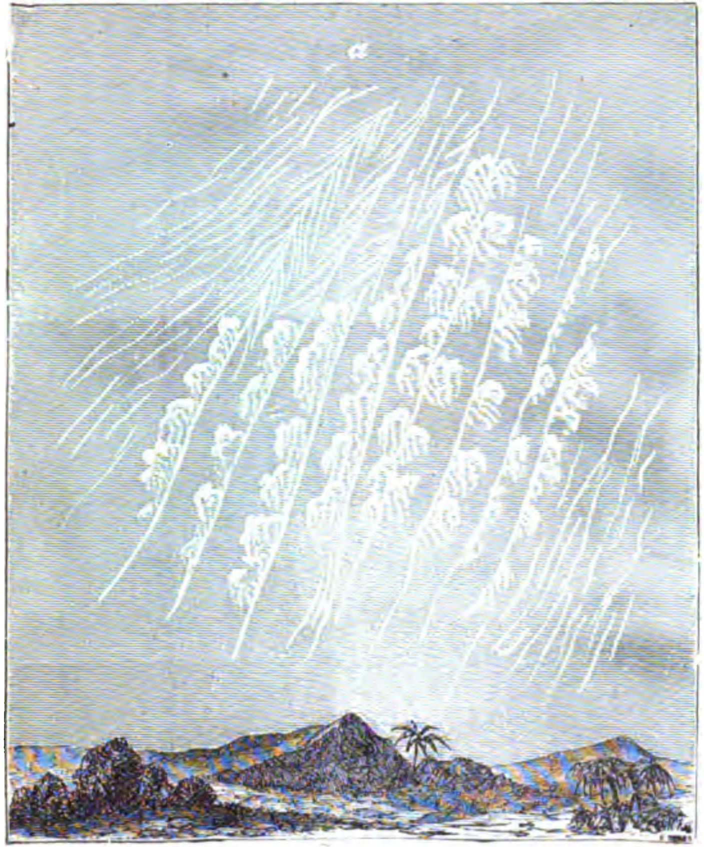








WIND-CLOUDS.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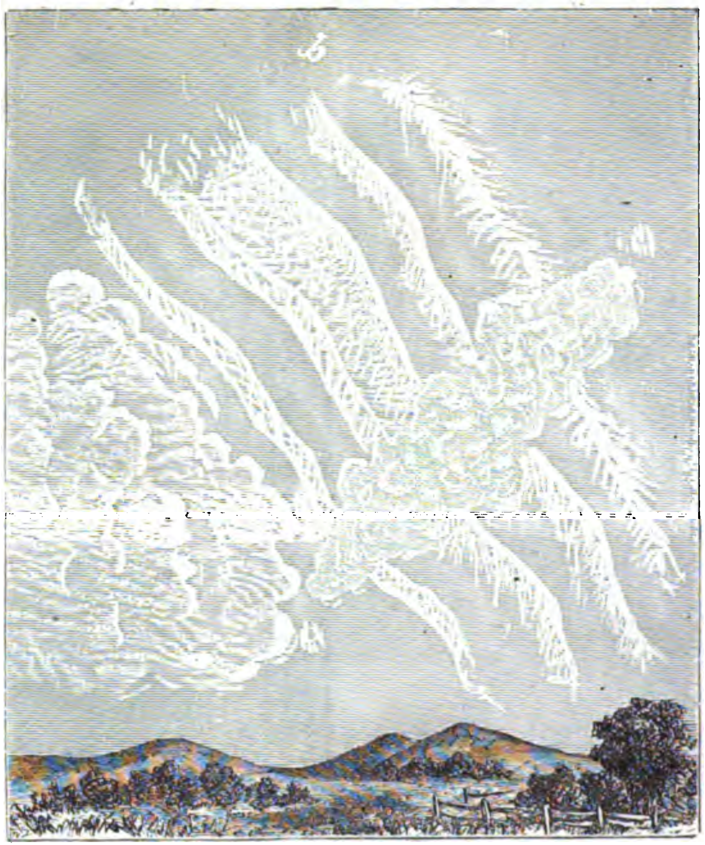
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maintained for public use in cities or posts receiving reports; for maps and bulletins, to be displayed in chambers of commerce and boards-of-trade rooms; for books and stationery; and for incidental expenses not otherwise provided for, two hundred and fifty thousand dollars: *Provided*, That the Secretary of War be, and he hereby is, authorized and required to provide, in the system of observations and reports in charge of the Chief Signal-Officer of the Army, for such stations, reports, and signals as may be found necessary for the benefit of agriculture and commercial interests: *And provided*, That no part of this appropriation, nor of any appropriation for the several Departments of the Government, shall be paid to any telegraphic company which shall neglect or refuse to transmit telegraphic communications between said Departments, their officers, agents, or employés, under the provisions of the second section of chapter two hundred and thirty of the Statutes of the United States for the year eighteen hundred and sixty-six, and at rates of compensation therefor to be established by the Postmaster-General: *Provided, also*, That whenever any telegraph company shall have filed its written acceptance with the Postmaster-General of the restrictions and obligations required by the act approved July twenty-fourth, eighteen hundred and sixty-six, entitled "An act to aid the construction of telegraph lines, and to secure to the Government the use of the same, for postal, military, and other purposes," if such company, its agents, or employés shall hereafter refuse or neglect to transmit any such telegraphic communications as are provided for by the aforesaid act, or by the joint resolution approved the ninth day of February, eighteen hundred and seventy, "To authorize the Secretary of War to provide for taking meteorological observations at the military stations and other points of the interior of the continent, and for giving notice on the northern lakes and seaboard of the approach and force of storms," such telegraphic company shall forfeit and pay to the United States not less than one hundred and not exceeding one thousand dollars for each refusal or neglect aforesaid, to be recovered by an action or actions at law, in any district court of the United States.

Approved June 10, 1872.

NOTE.—In preparing these instructions free use has been made of the Smithsonian "Directions for Meteorological Observers," of those issued by the Surgeon-General of the Army, and of Colonel Williamson's valuable work on the Barometer.

The office is indebted to the courtesy of Professor Henry, the distinguished secretary of the Smithsonian Institution, for permission to use the following illustrations of the Howard classification of clouds, which is the one to be followed by all observers.

PAPER 8.

REGULATIONS AND RULES OF THE OFFICE OF THE CHIEF SIGNAL-OFFICER OF THE ARMY.

[General Orders No. 28.]

WAR DEPARTMENT,
OFFICE OF THE CHIEF SIGNAL-OFFICER,
Washington, D. C., September 1, 1873.

The following regulations and rules, relating to the duties of commissioned officers, enlisted men, and civilian employés at this office, are published for their government, and will be strictly observed.

By order of the Chief Signal-Officer of the Army.

GARRICK MALLERY,
Capt. First Infantry, Bvt. Lieut. Col., U. S. A.,
Acting Signal-Officer and Assistant.

GENERAL REGULATIONS.

I.—DIVISION OF DUTIES.

The officers on duty at this office are classified as, 1st, commissioned officers of the Army and acting signal-officers who have been announced in orders as "Assistants to the Chief Signal-Officer;" 2d, other commissioned officers of the Army; and, 3d, civilian assistants. The duties of the office will be divided between them as follows:

1. One assistant to the Chief Signal-Officer will have charge of the orders, records, and general correspondence of the office, critically examining all papers presented to

him for file, and reporting upon any irregularity. He will also have the superintendence of enlistments, and perform such other duties as may be specially assigned to him.

2. One assistant to the Chief Signal-Officer will have charge, as property and disbursing officer, of all matters pertaining to money and property, (all communications upon which subjects will be referred to him for action,) together with such duties as may be specially assigned to him.

3. One assistant to the Chief Signal-Officer will, as instructor, have charge of all matters pertaining to the instruction of the signal-service of the Army, and, in addition, as "Assistant in charge of stations," will be charged with the general supervision of the observer-sergeants upon stations, and of the receipt, record, and publication of the weather-reports at this office, together with such duties as may be specially assigned to him.

4. The preparation of the current "Synopsis and Probabilities," and of the official publications in relation to practical meteorology, including the "Weekly Weather Chronicle," "Monthly Weather Review," "Daily Bulletin, Synopsis, Probabilities, and Facts," and such other duties as are related thereto, will be divided between several assistants to the Chief Signal-Officer and civilian assistants, in accordance with a roster to be published from time to time providing in advance for the specified period. In the absence of other orders, the assistant, who at any time may be relieved from the preparation of the current Synopsis and Probabilities, will take charge of the preparation of the publications above referred to.

5. One officer will have charge of the instrument-room and the examination, comparison, and repair of instruments therein, together with such duties as may be specially assigned to him. He will submit a written report to the Chief Signal-Officer every ten days on the condition of each instrument, whether its record is satisfactory as a standard; if not, to what extent it has been unreliable in its indications, with, if possible, a statement of the cause and suggestion of the remedy. His duties are more fully specified under a separate section below.

6. Two commissioned officers of the Army and acting signal-officers will be detailed as inspectors of stations. Their duties are fully set forth in a separate section below.

7. The assistants to the Chief Signal-Officer mentioned in paragraphs 1 and 3 of this section will be permanent members of the board convened at this office for the examination of applicants for enlistment and for instruction in the duties of assistant to an observer on station, and also of the board convened for the examination of candidates for promotion to the grade of sergeant, signal-service. Commissioned officers of the Army, other than those last above referred to, will, as occasion requires, be detailed to be additional members of each of these boards.

II.—RULES FOR DUTY.

The following rules relating to the duties of persons connected with the office will be observed by them:

1. When any officer or assistant at this office, charged with any regular duty or work, may be relieved therefrom, either permanently or temporarily, he will formally turn over the duty or work to the officer or assistant designated to receive it, and will direct the clerks and enlisted men, who have been serving under his orders, to report for instructions to the officer or assistant who relieves him, whose name will be stated in orders.

2. Every officer and assistant other than those above referred to in section I, "Division of Duties," paragraphs 1, 2, and 3, under the head of "General Regulation" in this order, will, daily at 10 a. m., make to the Chief Signal-Officer a written report of the duty on which he may be on that day engaged, with the number of clerks and enlisted men employed under his direction, for which purpose blank forms will be furnished.

3. Every officer under whose immediate orders enlisted men or civilian employés have been detailed for duty, will, on every Saturday, make to the Chief Signal-Officer a written report, stating the name and rank of all men on duty with him, the date when they entered upon duty at this office, the nature of their respective duties, and the changes by new detail, relief, or other casualty which occurred during the week, together with such remarks as may exhibit the conduct and work of the men reported upon.

4. The attention of all persons on duty at this office is again directed to the order of the Secretary of War, dated War Department, July 19, 1870, as follows:

"All officers and clerks on duty in the bureaus of the War Department are prohibited from exhibiting any table, statement, or paper belonging to the official records, or giving any information, copy, or extract from the same, or giving any information respecting the business of the Department to any person whatever, not on duty in one of the offices of the Department, without in each case the authority, in writing, of the chief of the Bureau concerned. A rigid compliance with this order will be enforced, to prevent improper use of information irregularly obtained."

5. In case of the absence of commissioned officers or enlisted men on duty at this office, on account of illness, a certificate to that effect from the proper medical officer of the Army in this city must be furnished without delay, by commissioned officers to the Chief Signal-Officer, and by enlisted men to the commissioned officer under whose orders they are immediately serving. A similar certificate from a practicing physician will be furnished by civilian assistants to the Chief Signal-Officer, and by clerks and other civilian employés to the commissioned officer under whose orders they are immediately serving.

III.—RULES CONCERNING OFFICE-ROOMS, ETC.

The following rules will be strictly observed in the office-rooms and halls:

1. The duties of this office do not admit of general office-hours being defined, which will, in the several divisions, be such as shall be, from time to time, established by the officer in immediate charge. As concerns the public, the office-hours will be considered as between 9 a. m. and 3 p. m., and persons unconnected with the office will not be admitted to the rooms except during those hours, unless accompanied by an officer. Visitors will not be received in the instrument-room before 12 m., except in cases specially designated.

2. The office-rooms must not be used as visiting-rooms, or for purposes of entertainment. Persons visiting the office are expected to transact their business as promptly and briefly as practicable.

3. The rooms occupied exclusivly by clerks and enlisted men will not be visited by any persons unconnected with the office, except for some urgent necessity and with the special permission of the commissioned officer under whose orders the men in the room to which admission is desired are serving.

4. All employés entering or retiring from the office will do so in a quiet and orderly manner.

5. Conversation upon any other subject than such as relates directly to the business of the office; giving of information, unless called for by the proper authority; writing of private letters and reading of newspapers during hours of duty, are strictly prohibited.

6. All conversation necessary to the proper discharge of the duties of the office will be carried on in a low tone of voice; and all unnecessary noise, either in the rooms or halls of the office, is prohibited.

7. Messengers in passing in and out of the rooms and halls will do so as quietly as possible, and will report their business in each room, at all times, to the clerk or non-commissioned officer in charge, or, in his absence, to the enlisted man in temporary charge of the room.

8. No rooms occupied by either commissioned officers, civil employés, or enlisted men will at any time be locked, except the room in the personal charge of the chief clerk in the property-division and the model-room, which two rooms shall be kept locked, when not in use, and the keys placed in charge of the watch-sergeant.

9. The clerk or non-commissioned officer in charge of a room will be held responsible for a strict observance of the above rules by all employés under his charge, and any violation of them will be promptly reported by him to the commissioned officer under whose orders the offender may be serving.

IV.—CORRESPONDENCE AND RECORDS.

1. All communications in any way relating to, or connected with, the business of this office, should be addressed to the Chief Signal-Officer of the Army; and any communication in any way relating to such business, received by a military or civilian assistant, or any other person connected with the office, without such address, will be regarded by him as official, and will be handed to the assistant having charge of the records and general correspondence, that it may be properly entered upon the books of the office and receive attention.

2. All papers prepared in the office, or compiled from the data belonging to it, or in the preparation of which its facilities, clerks, books, or records are used, are the property of the United States, are subject to the direction of the Chief Signal-Officer, and will be made of record by presentation to the assistant in charge of records, except in cases where the Chief Signal-Officer may specially direct their submission in the first instance to himself. All such papers will be kept in the office and accessible to proper authority, in case they may be needed in the absence of any officer or assistant.

3. All communications from this office, in any manner relating to or connected with its business, will either be written in the name of the Chief Signal-Officer, and be signed by him, or will set forth in terms that they are written by his direction, and will in that case be signed by the officer having general instructions in relation to them, or

written special instructions in the particular case. No such communication will, in any case, be written without the direction or approval of the Chief Signal-Officer previously obtained; nor will any such be sent or mailed from the office until it shall have been duly entered and copied on the office-books, for which purpose it will be presented to the assistant having charge of the records and correspondence.

4. The official title of the civilian assistants in the signal-service is "Assistant in the office of the Chief Signal-Officer," or abbreviated, "Assistant O. C. S. O.," which title, in case of signature, will be written after the name, and will be appended to all official papers. All papers so officially signed will be handed to the assistant in charge of records, except when the Chief Signal-Officer may specially direct that they shall be submitted to himself in person.

5. All papers or writings in any way relating to the duties with which the office is charged, or to the subject of, or theories concerning, meteorology having relation to those duties, prepared by any person in any way employed in this office, in any manner proposed for publication or likely to be published, must be formally submitted to the Chief Signal-Officer, for such disposition as he may direct.

The mode of publication of any deductions or theories or papers of any description, to have in any way or by any construction the sanction of the office, has already been determined upon, and the annoyances to arise through deviation from the plan contemplated cannot be permitted.

6. The writing-paper of this office, having an official heading, stamped or printed, will not be used for communications of a private or personal nature, and when such official heading is used, whether stamped, printed, or written, the communication will be considered as official, and be subject to the provisions of the above paragraphs.

7. Neither the official envelopes of the office, nor the official postal stamps furnished to it, will in any case be used to cover any but strictly official communications, written and disposed of in accordance with this order.

8. Requests for the use of any filed paper will be made to the assistant in charge of records, who will provide checks for its return to file. He will furnish any additional information or explanation applied for, on the subject of this section, and will be responsible for the observance of its provisions.

9. The correspondence and official papers connected with the duties of property and disbursing officer, and those connected with the general supervision of the observer-sergeants upon stations, and of the receipt, record, and publication of the daily weather-reports at this office, are not included in the provisions of the above paragraphs 1, 2, and 3 of this section, and the officers designated by paragraphs 2 and 3 of section I, "Division of Duties," under the head of "General Regulations" in this order, will be responsible therefor, in the same manner as has hitherto been the usage of the office.

10. The following table exhibits the papers, reports, &c. connected with this section to be submitted by the Chief Signal-Officer of the Army to the honorable Secretary of War, and to the Adjutant-General, War Department:

Papers, reports, &c., to be submitted by the Chief Signal-Officer of the Army to the Hon. Secretary of War and to the Adjutant-General, War Department.

	Nature of documents.	By what authority called for.	When to be submitted.	To whom to be submitted.	Remarks.
1	Annual report of the Chief Signal-Officer of the Army.	Act approved June 25, 1864. Statutes at Large, vol. 13, p. 184.	October 20 in each year	Adjutant-General .	This report should be submitted in duplicate, one for the Secretary of War and one for the Congressional Printer.
2	Statement of employés, (officers, assistants, clerks, &c.,) showing their pay and emoluments per annum, birth-place, where employed, and from what State or Territory appointed.	Acts approved April 27, 1816, July 14, 1832, and March 3, 1851. (Statutes at Large, vol. 3, p. 342, vol. 4, p. 608, and vol. 9, p. 600.)	As soon after the 30th of September as possible biannually.	Secretary of War..	These data are called for by the Secretary of the Interior through the Secretary of War for the Biennial Register.
3	Return of the acting signal-corps, United States Army.	By note on form for this purpose furnished by the Adjutant-General to department and corps commanders.	On the last day of each month, or as soon after as possible.	Adjutant-General .	
4	Post return of Fort Whipple, Va.	......do	......do	......do	
6	Recruiting return	......do	......do	......do	
6	Descriptive list of deserters	......do	......do	......do	
7	Muster-roll of enlisted men on duty at office of the Chief Signal-Officer.	......do	......do	......do	Also duplicates furnished to the paymaster who settles the accounts.
8	Muster-roll of the enlisted men of the signal-service, United States Army.	......do	On the last days of February, April, June, August, October, and December, or as soon thereafter as practicable.	......do	Do.

V.—GENERAL CORRESPONDENCE AND RECORD-ROOMS.

These rooms are in immediate charge of one chief clerk, with general supervision.

The enlisted men employed and the special duties assigned to each are as follows:

One sergeant, whose duty it is keep a correct record of all “letters sent” to genera correspondents, and, in the absence of the chief clerk, to assume charge of the rooms.

One enlisted man who keeps a record of all “letters sent” to observer-sergeants i charge of stations and “letters received” from telegraph companies; one in charge o “letters received” from general correspondents; one in charge of “letters received from observer-sergeants and from those corresponding in the interests of agriculture one in charge of correspondence (letters “sent” and “received”) with the post at For Whipple, Va., and general correspondence relating to the enlisted men of the service one in charge of an order-book, in which is recorded all orders, general and special issued by direction of the Chief Signal-Officer; one in charge of the reports mentione in Section IV under this head, the charge of descriptive book of enlisted men, muster rolls, recruiting-returns, enlistment and other papers relating directly to the enliste men of the signal-service, and two to whom is assigned the miscellaneous work of th rooms.

RULES FOR THE DIVISION IN CHARGE OF THE PROPERTY AND DISBURSING OFFICER.

1. Upon the clerk in charge of the property-division devolves the duty, under th direction of the property-officer, of the immediate supervision and examination of al bills against the central office and the various stations of observation, the preparatio of such bills for vouchers and money-accounts of the office and the correspondenc pertaining thereto, and the prompt rendition of all reports and papers which thi branch is called upon to make at the time designated for such reports, and for th proper record and care of all papers sent to him for action or file.

He is to hold, under the authority of the property-officer, the sergeant appointed fo the purpose responsible for the proper discipline of the men and the neatness of th rooms and desks occupied by them, and the strict performance of all the duties require therein, conformably to the rules and regulations displayed in said rooms.

A daily record of the time of arrival and departure of each man is to be kept an rendered on Saturday of each week to the property-officer, accounting strictly for al tardiness or omissions to report during the period for which the roster is made.

2. All letters, communications, vouchers, and other papers or indorsements receive at, sent from, or forwarded through, this office for official action relating to the mone or property in charge of this office will be placed on record in the office-books, an the action upon them carefully noted.

To insure the prompt and accurate performance of the work, it is assigned in portions, under the immediate direction of the clerk in charge, substantially as follows:

One man has the care of the writing and recording the miscellaneous letters sent, i which are kept copies of all letters emanating from this division; one man is in charg of the “letters-received book,” containing a synopsis of all letters received; on man has the keeping of the “returns of signal-property” from the military post throughout the country, the examination of those returns and the entry in a distinc set of letter-books of all correspondence upon the subject of property-returns, bot sent and received; one man is in charge of the property-account with the observers whose duty it is to keep a record of all property sent from the office against the party to whom it is sent, invoicing the property to the observers in charge of the stations and the examination and correction of the reports of property, which are required to b sent in promptly at the expiration of each quarter by them; one man has the preparation of all vouchers for abstracts, of making up the abstracts and accounts-curren and the property returns, with an assistant to assist in comparing them, as made up before they are transmitted to the accounting officers of the Treasury Department one man is employed in preparing names and subject-indexes for the “letters sent and “received” books; one man has the copying of all the money-papers of the disbursing-officer in the office-books, in which are kept a verbatim copy of each vouche abstract, and account-current, and any paper accompanying the same.

One sergeant, with a corps of assistants, has charge of the preparation of vouche for settlement of all accounts against the office, and is responsible for the proper keeping of all records of disbursements of money on vouchers, together with the settlemen of the pay and commutations of the men serving on stations and in this office.

The receiving, unpacking, packing, and shipping of goods is in charge of a sergeant with a number of assistants, whose duty it is to designate what portion of the work i to be done by each, and to see that it is properly performed.

The duty of preparing matter for the mails is assigned to one man, who is appointe under special orders of this office, whose duty it is to take charge of, and account t the property and disbursing officer for the postage-stamps and stamped envelopes which may be placed in his hands for that purpose.

To economize time and labor a letter-balance is placed in each important room; so that, when a letter is sealed or a package made up, the party making it up may immediately weigh it and mark in pencil upon it the weight thereof. At 1, 2, and 3 p. m. each day these packages will be sent to the stamping-clerk, who will then only have to affix the appropriate stamps according to the weight.

It is positively directed that no official stamp shall be used for private mail-matter.

The machine-shop is in charge of a private with assistants. The man in charge is held accountable for the care and proper keeping of all machines, tools, &c.

The library is in charge of one man as librarian, who is required to keep record of the books coming in and taken out; is accountable for their proper distribution in the cases, and the keeping up of the library catalogue. Any person taking a book from the library will leave with the librarian his name and the title of the book taken. No book so taken will be loaned to any person not connected with this office.

3. Employés will be at their desks at 9 o'clock a. m., and will confine themselves to their respective duties until 3 p. m., except 15 minutes between 12 and 1 o'clock, which will be allowed for lunch.

The keys of all desks will be deposited at the close of each day with the clerk in charge of the room or in a place known to him.

All desks must be equipped with a sufficient supply of stationery, so as to obviate all necessity for one man calling on another for it.

A rigid enforcement of the foregoing will be exacted, and all deviations reported to the property and disbursing officer.

4. No enlisted man of the signal-service will be allowed to sell or otherwise dispose of any portion of his pay accounts, (vouchers for pay and commutation,) nor will he be permitted to draw, (or give orders,) upon this office, or any of the offices connected therewith, without special authority.

5. The following reports from this division are submitted by the Chief Signal-Officer of the Army to the honorable the Secretary of War at the dates and under the authorities set opposite each:

Nature of documents.	By what authority called for.	When to be submitted.
1. A statement of contracts entered into during the year previous.	Act approved April 21, 1808, (Statutes at Large, vol. 2, p. 485.)	Early in January of each year.
2. A statement showing military appropriations, with the expenditure and balance unexpended at the end of the year; with an estimate of probable demands on such balance.	Act approved May 1, 1820, (Statutes at Large, vol. 3, p. 567.)	Early in February of each year.
3. A statement of all moneys expended by War Department disbursing officers during the year.	Act approved August 26, 1842, (Statutes at Large, vol. 5, p. 527.)	In January of each year.
4. The name of clerks and all persons employed, salaries, &c., during the year or any part thereof.	Act approved August 26, 1842, (Statutes at Large, vol. 5, p. 525.)	In January.
5. An inventory of property belonging to the United States in the public buildings and grounds occupied in the District of Columbia.	Act approved July 15, 1870, (Statutes at Large, vol. 16, p. 364.)	December 1,

6. The property and disbursing officer is required to make the following returns of property and money to the officers named, periodically as below:

Nature of account.	To whom made.	Period.
Returns of signal equipments and stores	Chief Signal-Officer	Quarterly.
Returns of equipments and stores belonging to "Observation and reports of storms," &c.	do	Do.
Returns of quartermaster's stores	Quartermaster-General	Do.
Returns of clothing, camp and garrison equipage	do	Do.
Returns of ordnance	Chief of Ordnance	Do.
Returns of medical stores	Surgeon-General	January & July.
Account-current, abstract A, purchases, abstract B, expenditures, vouchers to abstracts A and B.	Third Auditor	Monthly.

7. The several varieties of the weather-maps will be sold at the following prices:

Maps in one color, without reports or isobaric lines, 1½ cents each.

Maps in two colors, without reports or isobaric lines, 2 cents each.

Maps on manifold paper, without reports or lines, in books of 100 each, $2.75 per book.

Maps in one color, with current reports, and isobars, 2 cents each.

Maps in two colors, with current reports, isobaric and isothermal lines, 3 cents each.

Postage on each map one cent additional, except the manifold ones, on which it will be 28 cents per hundred.

The publications other than maps will be supplied until further notice upon the receipt of the amount of postage on each, as follows:

Annual report	24 cents.
Circular on the Practical Use of Meteorological Reports and Weather-Maps	10 cents.
Monthly Weather Review	1 cent.
Weekly Chronicle	1 cent.

All remittances, in payment of subscriptions to, or for the purchase of, maps, or in payment of postage on maps or other publications of the office, made by draft or post-office money-order, must be made payable to the property and disbursing officer of the office.

8. *Quarterly allowance of stationery, forms, &c., for each station.*

1	daily journal.
1	daily record of observation.
1	record of bulletins.
1	record of letters sent.
1	record of letters received.
3	original records of observations.
6	pen-holders.
72	pens.
6	lead-pencils.
2	India rubber, pieces of.
1	red tape, spool of.
1	sponge, piece of.
1	red ink, bottle of.
1	black ink, bottle of.
1	mucilage, bottle of.
1	sealing-wax, stick of.
3	letter-paper, quires of.
1	note-paper, quire of.
2	cap-paper, quires of.
1	envelope-paper, quire of.
200	envelopes, official.
50	envelopes, small.
50	carbon-paper, sheets of.
2	blotting-paper, sheets of.
100	record-sheets for self-registering instrument.
300	circuit blanks.
1,000	Forms No. 2.
1,500	Forms No. 3.
50	Forms No. 4.
600	Forms No. 5.
500	Forms No. 7.
1,000	Forms No. 8—"maps."
1,000	Forms No. 15.
25	Forms No. 19.
25	Forms No. 20.
10	Forms No. 21.
25	Forms No. 22 A.
25	Forms No. 22 B.
25	Forms No. 23.
25	Forms No. 24.
25	Forms No. 25.
100	Forms No. 26.
25	Forms No. 28.
30	Forms No. 30.
50	Forms No. 31.
25	Forms B.
25	Forms A.

List of stationery, forms, &c., sent to a station when established.

1	Guyot's Meteorological Tables, copy.
1	Loomis on Meteorology, copy.
1	Smithsonian Directions for Meteorological Observations, copy.
1	Manual of Signals, copy.
1	Sailor's Horn Book, copy.
1	Manual of Military Telegraphy, copy.
1	Record of Signals, copy.
1	Annual Report C. S. O., copy.
1	postage mem. book.
1	cipher book.
2	cipher cards, sets of.
1	daily journal.
1	daily record of observations.
1	record of bulletins.
1	record of letters sent.
1	record of letters received.
3	original records of observations.
1	instructions to observer-sergeants.
1	inkstand.
6	pen-holders.
72	pens.
6	lead-pencils.
1	ruler.
1	eraser.
1	paper-folder.
1	mucilage, bottle of.
2	India rubber, pieces of.
1	calendar.
1	pen-rack.
2	red ink, bottles of.
1	black ink, bottle of.
2	red tape, spools of.
1	sealing-wax, stick of.
1	sponge-cup.
1	sponge, piece of.
10	letter-paper, quires of.
6	note-paper, quires of.
10	cap-paper, quires of.
1	envelope-paper, quire of.
300	envelopes, official.
150	envelopes, small.
40	carbon-paper, sheets of.
3	blotting-paper, sheets of.
100	record-sheets for self-registering instrument.
12	meteorological charts, Forms 16.
600	Forms No. 2.
1,000	Forms No. 3.
100	Forms No. 4.
800	Forms No. 5.
500	Forms No. 7.
1,000	Forms No. 15.
20	Forms No. 19.
10	Forms No. 21.
20	Forms No. 22 A.
20	Forms No. 22 B.
20	Forms No. 23.
20	Forms No. 24.
50	Forms No. 25.
30	Forms A.
60	Forms B.

The above amounts vary with the size of stations—the average being taken.

ULES FOR THE DIVISION OF THE RECEIPT, RECORD, AND PUBLICATION OF WEATHER-REPORTS.

I.—OBSERVER'S ROOM.

DAY-OBSERVERS.

Office-hours from 8.15 *a. m. to* 3 *p. m.*

1. The observer in charge of station will have immediate supervision of the examnation and filing of mail reports from the several signal-stations, of the correspondence vith these stations on matters of routine duty, and of all observers and assistants on tation duty in this office. He will be held responsible for the proper discipline of the nen, and the cleanliness of the several rooms used for station purposes, and for the roper performance of all duty done therein. He will keep a daily record of the time f arrival and departure of each man under his charge, and on Saturday of each week ender a return of the same to the officer in charge of stations, accounting properly for ll delays or failures to report during the week. He will report on Form 24 the numer of maps, weather and post-office bulletins issued each week, classifying them acording to time of issue, and see that the entries in the daily record are promptly and roperly made. He will make out the monthly meteorological chart and the monthly neans on Form 22. He will be responsible for the proper and punctual mailing of all natter ordered to be sent by mail from the station-room, and will attend to the shipnent of all anemometers and self-registering attachments issued to the several stations, nd to such other duties of a general nature as may be assigned to him from time to ime. To secure the prompt performance of office-work, it will be distributed under is direction substantially as follows: One man in charge of correspondence and eneral clerical work; one man in charge of the special-bulletin book, in which all reorts are copied from the Forms 4 received by mail from the several stations of obserration. This man must be an instructed observer, and he will also make and record all he regular observations taken between the hours of 8 a. m. and 3 p. m. One man for eneral duty, such as briefing, indexing, and filing station reports, copying records, &c. One man charged with the duty of changing the large weather-map in hall of office, iling and distributing printed weather-maps in the office, and enveloping those sent ut by mail.

1. A correct list will be kept by the observer of all persons and institutions supplied vith maps, bulletins, Monthly Weather Reviews, and Weekly Weather Chronicles as nailed therefrom, with the local address of each. He will also keep a complete list of ffices furnished with the printed Synopsis and Probabilities, with the names of the everal distributing centers from which they are supplied.

3. In addition to the regular-station records, the following will be kept in suitable orm for convenient reference:

All extracts from logs of vessels received, with name of each vessel and party from vhom received.

Cautionary-signal record, as specially reported by the observers.

Location of the signal-office at each station, with position and elevation of the everal instruments.

Bench-marks at the various river-stations, with changes in same when made at any ime.

All marine records received, with name of vessel and party from whom received.

All casual reports and meteorological memoranda received from voluntary correpondents and sent to the observer's room for file.

Time of receiving post-office bulletins at the various offices.

The daily journal will be carefully and fully kept up.

4. All work must be promptly done and not be allowed to accumulate from day to ay; all station-reports will be carefully examined and compared, and when errors are ound, the observer at fault will be notified immediately, in order that the proper corection may be made as soon as possible.

5. On the first day of each month the observer in charge will examine the checkook of reports, and call upon all delinquents for such as have not been received at hat date, if sufficient time has elapsed for their receipt by mail.

6. Smoking will not be allowed in any of the office-rooms.

7. The records in charge of the observer will not be taken out of the room in which hey are habitually kept, without the authority of the Chief Signal-Officer.

8. The regular-bulletin book for each month, when filled, will be deposited in the ffice library for safe-keeping and convenience of access.

9. On the first of January, April, July, and October, respectively, of each year, the le copies of the printed weather-map will be counted out in quarterly volumes by the bserver, and turned over to the property-officer for binding.

10. One observer-sergeant and two assistants will be charged with the translation

and record of the morning telegraphic reports. The observer will translate the reports
rapidly as they are received from the telegraph-room; one assistant will enter the r
ports, as translated on Form 3, making the required number of manifold copies, and wi
fill up the columns of barometric and thermometric changes during such intervals as occu
in the receipt of reports. The second assistant will write three copies of the translate
reports on manifold paper for distribution as follows: One for use of the officer makin
out the Probabilities; one for use of assistant in changing the large weather-map
hall of building; and one for use in printing-office, and such additional copies as ma
be ordered from time to time. These translations will be distributed promptly by th
messenger charged with their delivery, and each sheet must show the time of the fir
and last entries upon it. If there should be any delay in the receipt of reports whe
a sheet is partly filled, it will not be held for completion, but will be torn out at one
and sent to the parties for whom it is prepared, in order that their work may not
delayed by any fault in this office.

11. Back reports will not be entered in Form 3, but will be translated as receive
and manifold copies made and distributed in the same manner as current ones. The
will be copied into the bulletin-book in *red* ink under the proper date.

12. The observer in charge of the translation of reports will be responsible for the
prompt and correct entry in the bulletin-book, and will see that such entry is mad
before the expiration of the regular office-hours each day.

13. The morning bulletins will be torn out at 10.30 a, m.. or upon notification fro
the telegraph-room that the circuits are closed, except on Sundays, when the time ma
be extended, in case of necessity, to 11 a. m. At ten minutes before 10 o'clock eac
day, one copy of the bulletin, as written up to that time, will be torn out and se
promptly by messenger to the printing-room. If the reports are not all entered by th
time, another copy will be sent to the printer as soon as they are received, and th
bulletin completed. One copy of the complete bulletin will also be posted in the hall
the office, and all those for local distribution by messenger will be sent to the officer
charge of stations. Those for foreign correspondents will be kept with the afte
noon and midnight bulletins, and mailed in packages semi-monthly to the proper a
dress. Those for distribution by mail in this country will be properly addressed an
mailed with the regular office-mail daily.

14. The observer in charge will make out a list of telegraphic errors at each repor
and send it to the officer in charge of stations, with the copies of the bulletin intende
for his use.

NIGHT-OBSERVERS.—FIRST RELIEF.

15. The observer in charge of this relief, with one assistant, will report prompt
each day at 4 p. m. and remain until 12 p. m., or until relieved by the sergeant
charge of the second relief.

16. The assistant charged with the special duty of writing the manifold copies f
use of the Probability and printing rooms will report at 5 p. m., and remain until th
Synopsis and Probabilities are ready for issue when he will distribute the copies amon
the Associated Press agents authorized to receive them. He will return to the office
11.15 p. m., and remain until the midnight Probabilities are ready for issue, when
will distribute copies of the same as follows: One copy to Daily Chronicle, one to Nation
Republican, one to New York Associated Press, and one to the American Press As
ciation, and such other places as may be designated from time to time.

17. The time of receiving the midnight copy for distribution will be noted on th
proper form, and also the time of its delivery to the press agent. The utmost dispatc
must be used by the assistant in performing this part of his duty.

18. The observer will be responsible for all observations made during his tour
duty, for the discipline of all enlisted men and all messengers then on duty in th
buildings, except those in the telegraph-room, and, in his capacity as watch-sergean
for the safety of the buildings and the public property therein. He will translate th
afternoon reports as received, and his assistant will write the bulletins as the repor
are translated, making the changes in the barometer and thermometer at such tim
during the work as there may be delay in the receipt of reports. The bulletin-boo
will be properly and promptly filled under the supervision of the observer, and a
back reports entered in red ink under their proper dates. River-reports will be e
tered and the changes recorded in the special-bulletin book provided for this purpo
The manifold copy of reports for the officer in charge of the Probabilities will be se
to his room as fast as each sheet is translated, and if any delay occurs in receiving th
reports, all on hand at the time of such delay will be sent down without waitin
for enough to fill the sheet.

19. The large weather-map for displaying the afternoon reports will be changed re
ularly by 7.45 p. m., and the same care taken of the symbols and tags as prescribed f
those used on the other two maps. One copy of the bulletin will be posted in th
office-hall as soon as completed, and one copy for the officer in charge of stations, an
one for the printing-room, placed in their proper envelopes, and retained for delive

the next morning with the midnight bulletins. All other copies will be left on the desk of the observer in charge of the station for proper distribution next day.

20. All nine o'clock reports received by telegraph will be entered in the bulletin-book provided for that purpose, and a copy of them sent to the Probability-room.

21. All time not required for the performance of regular station-duties will be occupied in addressing envelopes from lists furnished by the sergeant in charge of station, and especial care must be taken to write the addresses plainly and distinctly.

22. All reports received before midnight will be translated, distributed, and recorded promptly.

23. The observer in charge will keep a record of the time at which each man reports for duty, and will turn over this record on Saturday of each week to the sergeant in charge of station.

24. Smoking will not be allowed in the office during the hours of duty.

NIGHT-OBSERVERS.—SECOND RELIEF.

25. The observer and assistant on this relief will be on duty from midnight until 8 a. m., or until relieved by the arrival of the watch-sergeant in charge of the day tour of duty, or by proper authority. The observer will take charge of the translation of reports promptly on time, and will be held responsible for their prompt delivery in the Probability-room in the manner already prescribed for the afternoon report. He will translate the reports as received from the telegraph-room, while one assistant enters them on the bulletin, and the other makes the manifold copies for the Probability-room.

26. After the reports are all received and translated they will be entered in the bulletin-book, all back dates being entered in red ink in their proper places.

27. One copy of the bulletin will be posted on the bulletin-board in the office-hall, and one for the officer in charge of station and one for the printing-room will be put in the same envelopes with the copies of the afternoon bulletins remaining, and placed, with the other copies made, upon the desk of the sergeant in charge of station, or in such other place as he may designate.

28. The large weather-map of the midnight reports in the office-hall will be promptly and properly changed, and the same care taken with symbols and tags as prescribed for the other two maps.

29. During the receipt of the midnight reports, the manifold copy for the Probability-room will not be delayed at any time over one minute.

30. In addition to the work of translating and recording reports, the observer will see that the envelopes used in distributing the post-office copies of the printed Synopses and Probabilities are plainly addressed, and that the inclosures are folded and sent to the post-office in time for the earliest morning mail that leaves the city. He will also assist the printer in reading the proof of the Synopses and Probabilities whenever notified that it is ready. The assistant who carries them to the post-office may then be excused from duty for the remainder of the night, except on Saturday nights, when the post-office bulletins not being printed he will remain during the full hours of duty. The observer in charge of its relief will be held responsible as watch-sergeant for the safe-keeping of the buildings and property connected with the office, and for the discipline of the enlisted men on duty with him or in the buildings at the hours when he is in charge. He will be governed, in case of fire, and in reference to the supervision of the watchman, by the general instructions that follow.

31. Smoking will not be allowed in the office-room during the hours of duty.

GENERAL INSTRUCTIONS.

32. Each observer in charge of a relief will assure himself by personal inspection, when going on duty, that the fire-extinguishers, fire-buckets, and axes are in their proper places, and ready for immediate use. He will see that all the men on duty during his tour are carefully instructed how to act in case of fire, and will, in the event of such an occurrence, immediately send a messenger to notify the nearest officer connected with the office of the fact. If the fire, when discovered, is of such extent that it cannot be extinguished by the means available in the office, the alarm will be turned on from the box (No. 68) attached to the building, and every possible precaution taken to subdue the flames before the arrival of the engines. If the fire should get so far under headway that the destruction of the building is to be feared, prompt measures will be taken to remove to some place of security as much public property as possible, but especially the office-records and meteorological data. To enable this to be done intelligently, and without loss of time, the observers in charge of both night-reliefs will inform themselves as to the location of these records and documents in order that access may be had to them in case of necessity with the least possible delay. A duplicate key to the fire-alarm box will be intrusted to the night-watchman who goes on duty at 6 p. m. daily, and will be transferred by him to his successor at midnight. The key to the

watch-clock will be given to the watchman once every hour, to enable him to make his regular round of duty, and will be reclaimed from him after each round. If the watchman fails to apply for the watch-key fifteen minutes before any hour during his tour of duty, the observer will ascertain at once the cause of delay, and take proper measures to prevent its repetition.

33. The duplicate key to the fire-alarm box and the key to the watch-clock will be left each morning on the desk of the officer in charge of stations.

34. In changing the large weather-maps, two sets of tags will be provided, to be used alternately. When one set is taken off, the pencil-marks upon the several tags will be removed with a moistened sponge, the tags dried and kept for use the next day. Care must be taken to write the reports accurately upon the tags, to put the proper weather-symbols at the various stations, and to change the date of report by means of the calendar over each map.

35. A record of telegraphic errors noted in translating will be kept by each observer in charge, and inclosed with the bulletin for the officer in charge of stations, to whom report will also be made of all errors or omissions on the part of any of the men on duty with him.

II.—TELEGRAPH-ROOM.

1. The telegraph-room will be under the immediate supervision of the electrician of the signal-office, who will be held responsible for the discipline of the operators and clerks therein; for the proper discharge of their duties, and for the proper record and care of all papers and reports sent to him for action.

2. Office-hours are from 7.45 a. m. to 1.30 a. m., or until the midnight report is disposed of, and the caution—"good-night"—sent.

3. The electrician will so arrange his working force that at least one operator will be present for duty at all times during office-hours, as given in the preceding paragraph.

4. He will divide the working hours into reliefs of as nearly equal length as possible, and have the operators alternate weekly in the day and night reliefs and the receipt of signals or weather-reports.

5. He will receive from the property and disbursing officer all telegraph-bills sent to this office for settlement, and after carefully and promptly auditing the same will return them with suitable remarks to that officer.

6. The general duties of the operators will be substantially as follows:

a. Receive and transmit all weather-reports and messages, including the Synopses and Probabilities sent to or from the office.

b. Enter all reports received on the regular check-sheets, and all telegrams sent and received in the books of "telegrams sent" and "telegrams received," respectively.

c. Keep wire record during receipt of reports, and also record of special weather-service.

d. Enter all check-sheets, special weather-records, and cautionary-signal orders in the books provided for these respective records.

e. File wire reports.

f. Prepare list of stations from which reports are missing at close of circuit.

7. The general duties of the clerks will be as follows:

a. Examine the mail copies of Form 5, and compare them with the telegraph copies, noting all errors, and reporting the same to the electrician.

b. Keep a record of the receipt of all mail copies of Forms 2, 5, 19, and "B," and call on the proper observers for any missing copies, using the regular letter form for this purpose, and submitting it for signature and entry to the officer in charge of stations.

c. Examine and file Forms "B" and 19, noting all errors, and reporting them to the electrician for the proper action.

d. Examine and compare statements of circuit-work performed by the several telegraph companies for the office, and report all discrepancies or errors to the electrician.

e. Keep record in proper books of all irregularities discovered.

f. File all reports in their proper places in such a manner that any one of them can be easily and quickly found.

8. Cautionary-signal orders, Synopses and Probabilities, and telegraphic orders to observers in reference to station duties will be signed by the officer in charge of stations. Other telegrams will be sent in the regular business manner.

9. The manifold copy of reports received will be sent promptly to the translating-room, and if there should be any delay in necessary reports after a sheet has been commenced, the operator will not wait to get the sheet full, but will send to the translator all on hand when the delay occurs.

10. Copies in manifold of all reports received between the regular reporting-hours will be sent to the translating and probability rooms, and to the officer charged with the preparation of the Weekly Weather Chronicle, &c.

11. When the regular circuit between New York and Chicago is broken, or communication so interrupted as to delay the transmission of reports between those points, the observer at Chicago will be directed to send them *via* Cincinnati if the delay occurs at

ither the morning or afternoon report. If at the midnight report, the observer in Cincinnati will be directed to forward them to this office with his regular reports.

12. In the event of serious delay in the receipt of reports from New York over the egular circuit, the observer there will be directed to forward them by any other available route.

13. Operators in the regular New York circuit will be instructed at any time to divide the circuit whenever such a course would facilitate the transmission of the reports, nd at such points as may be thought advisable by the electrician in this office.

14. The electrician will notify the proper officials of the several telegraph companies f all delinquencies on the part of their employés in connection with the transmission f signal business, keeping full copies of all letters sent in the book provided for that purpose.

15. All errors noted in observers' reports will be brought promptly to the attention f the officer in charge of stations for proper action.

16. Smoking will not be allowed in the telegraph-room.

17. Visitors will not be allowed in the room without permission from one of the commissioned officers on duty in the office, or from the electrician.

18. Enlisted men and clerks on duty in this office will not be permitted to enter the elegraph-room, except in the discharge of their duties, without proper authority, and will in all cases transact their business promptly and quietly, and leave the room without disturbing the operators more than is absolutely necessary.

III.—LITHOGRAPHIC-ROOMS.

Office-hours from 8.30 *a. m. to* 3 *p. m.*

1. The rooms will be under the immediate supervision of a sergeant, who will be held responsible for the discipline of the enlisted men employed therein, for the prompt and regular performance of their duties, for the police of the rooms, and for the proper care of the public property required in the discharge of his duties.

2. The sergeant in charge will keep a roster of all men on duty in the lithographic-room, and will note, daily, the time of arrival of each man, reporting the same weekly o the officer in charge of stations, with such remarks as may be necessay to account or neglect of duty or absence during office-hours. In case of sickness, the certificate f one of the surgeons on duty at the United States dispensary in this city must be procured and filed with this weekly report.

3. All transfers will be made by the sergeant in charge, or under his personal direction, and the original from which the transfers are made will be carefully preserved nd filed away for convenient reference. He will also attend in person to drawing ransfers, pulling proofs and dampening paper, and will make a check daily, showing he number of maps printed of each issue, with time of receipt of copy and of delivery o printers. This check will be delivered to the officer in charge each afternoon.

4. The large press will be used exclusively for printing the isobars and isotherms, nd worked by two men, who will not be called upon to perform any other duty. The maps as struck off will be turned over to the printing-room on application.

5. One press will be set apart for making transfers and doing such small jobs as may be required from time to time. One will be used for the file copies of maps printed in wo colors, and the other for printing the green maps for regular issue, of which each man will be required to print an average of three hundred copies daily.

6. The first duty of the men on reporting in the morning will be to scrape the rollers, clean the ink-slabs, and remove the resin from the transfers preparatory to printing the plain maps.

7. After the required daily number of maps has been printed, the men will again clean the ink-slabs, varnish the rollers, clean the presses, knives, and other implements used about the presses, besides rubbing out and strengthening transfers, leaving everything connected with their work in a clean and orderly condition. In addition to this, ach man must, in turn, sand, polish, and deliver to the transferrer all stones that are injured under his hands.

When it becomes necessary to use one of the regular printing-presses for making ransfers, the man in charge of the press will, during the time of its use for this purpose, occupy himself in sanding and polishing as many of the stones as practicable.

8. The transfers of all isobars and isotherms for the current issues of maps must be made with the least practicable delay, all other work giving way to this. The copies s struck off will be delivered promptly to the printing department for completion.

9. All errors noted in the originals furnished for copy will be promptly referred to he officer in charge of stations.

10. Care will be taken to make the lines and lettering on the maps of uniform size, rom day to day, and to avoid blotting or otherwise soiling the paper.

11. All requisitions for paper, ink, and other material must be made in time to prevent the supply on hand from becoming exhausted, and will be made through the of-

ficer in charge of stations, when he is present. In his absence, such requisition wi be made directly to the property and disbursing officer.

12. On Saturday of each week all maps on hand not required for use in this offi will be turned over to the property-officer, with a check stating the number of san and date of delivery.

13. The proof of each transfer must be carefully compared with the original befo any copies are printed for issue, and all errors found therein promptly corrected.

14. All orders for work in the lithographic-rooms will be given through the officer i charge.

15. Rooms and presses must be kept clean and in orderly condition, and all wor promptly done.

16. No smoking will be allowed in the rooms during office-hours.

17. Enlisted men on duty in other parts of the office will not be permitted to ent the lithographic-rooms without proper authority.

IV.—PRINTING-ROOM.

DAY-WORK.

Office-hours 8.30 *a. m. to* 3 *p. m.*

1. The sergeant in charge will be held immediately responsible for the discipline the men employed in the printing-room, for the prompt and accurate performance their duties, for the police of the room, and the care of all public property therein. H will distribute the work among the men in such manner as will best secure its per formance, and will see that all proofs are carefully compared with the originals an errors corrected before any copies are struck off for issue.

2. As a general rule the different men will be kept at that part of the work wit which they are most familiar; but care must be taken that all are sufficiently in structed in the several duties of the room to be able to take hold of any one of them i the absence of the man specially charged with such duty.

3. Regular copy will be delivered to the sergeant in charge at about the followin named hours daily:

Bulletins for afternoon and midnight maps of day previous by 8.45 a. m.
First reports for a. m. map at 9.15 a. m.
Changes for a. m. map, 9.45 a. m.
Synopsis for a. m. map, 10.15 a. m.
Probabilities for a. m. map, 10.30 a. m.
Weather Chronicle, 11 a. m.

The copy of the "Facts and Verifications" will be received at irregular hours, bein delivered as rapidly as prepared by the proper officer.

4. A list will be kept by the sergeant in charge of the number of copies of th Weather Chronicles and of each issue of the map required daily, and of the number o copies required of all other publications. This list will be printed and posted in th room, near the desk of the sergeant in charge.

5. All proofs of Weather Chronicle, Facts and Weather Review will be marked i pencil with the name of the sergeant in charge, and sent over promptly to the office in charge of room for proper disposition; when returned the proof will be checke with the name of the officer responsible for its preparation. All other proof will b sent to the same officer, but need not be checked.

6. The morning map will be sent to press in time to have enough copies struck o by 11.30 to supply the Baltimore station, and these maps will be sent without delay t the Baltimore and Ohio Railroad depot in time to leave the city on the noon train.

The other copies for the regular issue will be printed as rapidly as practicable, an those for the office use and local distribution issued as soon as a sufficient number ha been printed. Those for mail distribution will be folded in the printing-room by man charged with that special duty, and properly prepared for the mail.

7. The regular and prompt issue of the tri-daily weather-maps is the principal wor of the printing-room, and no other work will be permitted to interfere with or de lay it.

8. A record will be kept by the sergeant in charge of the time at which each ma reports for duty daily, and of the causes of delay or failure to report. This record wil be handed to the officer in charge on Saturday afternoon of each week. In cases o sickness the certificates of the fact from one of the attending physicians at the Unite States dispensary in this city must be procured and filed with this weekly report.

9. All requisitions for paper, type, ink, and other necessary materials will be mad through the officer in charge of room, when present, and, in his absence, to the prop erty-officer in person. These requisitions must be made in time to prevent the suppl of any article from becoming exhausted, and delay of work in consequence.

10. Three skeleton copies of each map will be struck off for use of the lithographe

who prepares the small maps for publication, with the monthly issue of facts. These maps will be filed by the sergeant in charge until called for by the office librarian, to whom they will be transferred on application.

11. A detailed record will be kept by the sergeant in charge, in a book provided for that purpose, of all work done in the room.

12. Smoking will not be allowed in the printing-room during office-hours.

13. On Sunday and official holidays the only work required, except in special cases, will be the issue of the authorized number of maps, as indicated from time to time.

NIGHT-WORK.

14. Office-hours will be from 11 p. m. until the post-office copies of the "Synopsis and Probabilities" are printed, properly enveloped and addressed, and sent to the post-office.

15. The "Synopsis and Probabilities" will be printed on flat letter-paper, and issued every morning, except on Sundays, in time to be sent off by the earliest morning mail leaving the city, as ascertained from the city postmaster.

16. The assistant to the night-observer will assist in putting up the copies for mail, and will carry them to the post-office in accordance with instructions already given.

17. Two copies of the "Synopsis and Probabilities" will be printed and mailed to each post-office on the list furnished for the information of the printer. In addition to the copies for mailing, ten copies will be printed for file, and kept by the sergeant in charge until called for by proper authority, and two copies for the officer in charge, and left on his desk by 9 o'clock each morning.

18. The night-printer will clean up and distribute the type used by him, clean the press, and cut the paper required for his work.

19. If the man charged with this duty should be taken sick during the day, or be unable from any other cause to perform it, he will promptly notify the sergeant in charge of the fact, in order that proper arrangements may be made to have the work done by some other man. If the sergeant in charge should have left the office before the receipt of this information, it will be communicated to the watch-sergeant on duty at the time, who will notify the first man on the list of printers furnished him by the sergeant for this purpose.

RULES FOR THE PREPARATION OF SYNOPSES AND PROBABILITIES.

I.—FOR THE GUIDANCE OF ALL OFFICERS, ASSISTANTS, AND OTHERS CHARGED WITH THE PREPARATION OF SYNOPSES AND PROBABILITIES.

1. The first or opening sentence of the Synopsis must always *employ a verb*, and the verb must be *in the present* or *past tense, e. g.:*

SYNOPSIS.—The barometer *has fallen* (or *is falling*) in the Northwest, &c.

The first or opening sentence of the Probabilities *must always employ a verb*, and this verb must be in one of the *future tenses*, or must distinctly refer to the *future, e. g.:*

PROBABILITIES.—In the Northwest the barometer *will rise*, or *will probably rise*, or *will have risen* by Monday, &c.

2. Attempts to devise new expressions in the weather-bulletin will not be made, and other terms than those heretofore employed to express meteoric conditions will not be used until after submission to the Chief Signal-Officer. The following expressions are approved for the occasion to which they are appropriate, viz: *Partly* (not *partially*) *cloudy* weather; *conditions indicate* (instead of *are favorable for*) *severe local storms: areas of rain* or *rain-areas* or *rain-belts; low barometer* or *storm-center* or *storm-area*; *telegraphic reports*, or *regular* (or *usual*) *morning* (*afternoon* or *midnight*) *telegraphic reports from* ——— *have not yet been received*, (or *are missing.*) "*Cautionary signals are ordered for*, or *continue at*" ——— instead of "Warning signals" or "Signals continue at ———." The expression "dangerous winds are not anticipated," will not be used. In expressing the changes in the direction of wind, the words "*veering*" and "*backing*" will be used whenever possible. The Synopses and Probabilities will be condensed as much as possible; and in order to provide against misconstruction of sentences through telegraphic errors, &c., in the Synopses, the sentences will be made to end with the name of a district or districts, when possible; but in the Probabilities, the sentences will be commenced with the words "for," "in," or "from," followed by the name of district, *e. g.:*

Synopsis for past twenty-four hours.

The barometer has risen over New England and the Middle States. It has fallen somewhat over the Gulf States and the Northwest. Partly cloudy weather and rain-areas have prevailed over South and Middle Atlantic States, with light to fresh easterly to southerly winds, which continue over former. Clear weather and light winds now prevail over New England, northern portion of Middle States, and from central Gul to Lakes Erie and Michigan and Eastern Iowa. Telegraphic reports are missing from stations in Texas, Upper Michigan, Minnesota, and west of Omaha.

Probabilities for coming twenty-four hours.

In New England and the northern portion of the Middle States clear weather and light to fresh winds will prevail. From New Jersey and Eastern Pennsylvania to Florida partly cloudy weather, rain-areas, and light to fresh northerly to easterly winds. From Tennessee to Lakes Erie and Michigan clear and partly cloudy weather. For the Northwest pressures diminish somewhat, with easterly to southerly winds.

3. Special attention will be given in preparing Probabilities to those divisions of the country in which post-office bulletins are distributed, giving as minutely as possible the meteoric changes to be expected within the specified time.

4. Predictions for more than twenty-four hours in the future are only to be made in cases of special importance.

5. In the morning (10 a. m.) Probabilities, special attention should be given to the ensuing twelve hours, and not to the weather of the following day.

6. In the afternoon Probabilities special attention should be given to the Southern States, and other districts where the midnight press report is not published.

7. The individual States, Territories, and lakes, &c., may be mentioned by name in the Synopses and Probabilities when the weather reports justify such minuteness, otherwise the more general geographical divisions of the country are to be mentioned; and in doing this the following terms only are allowed, with the significance given them on the map of geographical divisions, *i. e.:*

Divisions.

1. Pacific States.
2. Extreme Northwest.
3. Northwest.
4. Southwest.
5. Southern States.
6. Lake region.
7. Middle States.
8. New England States.
9. St. Lawrence Valley.

Subdivisions.

1. Missouri Valley.
2. Upper Mississippi Valley.
3. Lower Mississippi Valley.
4. Ohio Valley.
5. Western Gulf.
6. Eastern Gulf.
7. Upper Lakes.
8. Lower Lakes.
9. South Atlantic.
10. Middle Atlantic.

8. For each section mentioned in the Probabilities there will be given, if possible, the expected condition of the pressure, temperature, wind and weather.

9. When the readings of barometers are known to be constantly too high or too low, (from erroneous elevations, &c.,) the assistants making the Probabilities will agree upon the differences to be applied to them, so that the curves may appear to have been drawn by the same person.

10. In making up the Synopses special attention will be given to the *divisions* of territory, and care taken to give the *direction* in which the disturbances named are moving.

11. They will prepare, daily, a statement of those portions of the Probabilities, worked up the previous day, verified, those partly verified, those non-verified, and those considered doubtful. In case they have been fully verified, it will only be necessary to state "Fully verified."

12. They will also enter on the schedule of "Cautionary Signals" the letter V, for signals verified at the station; *j.* for signals justified by reports from neighboring stations; *i*, for signals not justified.

II.—FOR THE GUIDANCE OF THE OFFICER, ASSISTANT, OR OTHER PERSON CHARGED WITH THE PREPARATION OF THE SYNOPSES AND PROBABILITIES FOR PUBLICATION.

1. He will be at the office by 9.30 a. m. and 6.30 and 11.20 p. m. of each day. On the maps used for preparing the press-reports for public issue, the observations received before the completion of the Probabilities will be entered with a *black* pencil; those received afterward with a *blue* one. He will examine the reports carefully, with a view to discover telegraphic errors, make a note of all, and call upon the telegrapher for corrections, when these are necessary, and they can be received. The telegrapher on

duty will be instructed by the officer in charge of stations to call for such corrections promptly, whenever they can be made in time to be of immediate use in the preparation of the Probabilities.

2. In order that he may be responsible for the isobars and isotherms on the maps issued from this office, he is strictly required to draw upon the maps used in preparing the Synopses and Probabilities his own isobars and isotherms in full lines of different colors, (blue and red,) except when there is any doubt, when they will be broken lines, thus: — — — —, and in doing so, to space the distance between the stations as accurately as possible. This duty must not be delegated. He will not carry the isobars and isotherms westward of the one-hundredth meridian.

3. The river-reports will be entered on the special form for that purpose, and the changes will be briefly noticed in the Synopses and Probabilities. Whenever the changes are greater than five (5) inches, he must state—"The rivers have risen (or fallen) at"—[here give the names of the stations,] or decidedly risen (or fallen) at ———; or give the number of feet when the change is remarkable. It is in the view of the Chief Signal-Officer, that the Probabilities issued from this office shall eventually comprise statements as to the probable condition of rivers, based upon the facts which will be given in the Synopsis.

4. He will add daily to the file copy of the 1 a. m. Probabilities only, "*Special for Washington, D. C.,* ——— ———," and on Sundays also to the copies sent to the Washington, D. C., newspapers.

5. He will read and verify or correct the manifold copy of the Synopses and Probabilities, and attach his initials to the same, after such verification and correction.

6. The full Synopsis and Probabilities for the 7.35 (11) a. m. report will be sent to the officer in charge of the printers as soon as completed, and not later than 10.30 a. m. A single copy of the Synopsis alone will be sent to the same officer by 10.10 a. m.

7. He will call upon the officer in charge of stations for intermediate observations to be taken by the observers and forwarded to this office whenever necessary.

8. He will be held responsible for the true tracing, upon separate maps with black pencil, of the isobars and isotherms from which the lithographers make copies, and after having completed them, will write the letter *I* in blue color on the lower right-hand corner of the original maps, and attach his initials to the tracings.

9. The tracings from the original maps of the 7.35 a. m. and 4.35 p. m. and 11 p. m. reports will be made, whenever practicable, immediately after the completion of the Probabilities deduced from the reports.

Those for the morning report will be sent to the officer in charge of the lithographic-room by 10.45 a. m. daily. Those for the other two reports will be handed to the watch-sergeant on duty, who will send them to the lithographic-room by 8.30 a. m. of the succeeding day. The only exception to this rule will be made when, through failure of telegraphic communication, a sufficient number of reports are not received to make reliable isobars and isotherms, in which case the tracings of the afternoon and midnight maps may be delayed until the map for the next morning is completed.

10. On a list of the names of stations those from which reports have been received in time for use in preparing the Probabilities will be ruled out by the clerk as he enters the reports on the maps. These lists will be verified by the officer in charge of the Probabilities, and he will attach his initials thereto after such verification, and send the same to the officer in charge of the printers immediately after the tracings of the isobars for the respective maps.

11. After having written the total and partial verifications and non-verifications, and those which are doubtful, for Probabilities, he will write the letter *V* in blue on the press-report and lower right-hand corner of the map from which, together with the preceding maps, the current report was worked up.

12. Two files of the press-reports will be kept; with one the *total* verifications, partial verifications and non-verifications, and the doubtful portions; with the other, only the partial verifications and non-verifications, and the doubtful portions. The former file to be sent every morning at 11 a. m. to the private office of the Chief Signal-Officer; the latter to the officer, assistant, or other person in charge of the preparation of the Facts.

13. Cautionary signals will be ordered to be displayed at a signal-station whenever the officer in charge on the subject considers it probable that there will be experienced within twelve hours at that station, or within one hundred miles thereof, and on any navigable stream, a wind dangerous to navigation.

By dangerous winds on the navigable water will be understood those reaching a velocity of twenty-five miles an hour, as registered by the anemometer on the land, provided that the temperature be decidedly above freezing. For temperatures decidedly below freezing and for foggy weather, winds will be considered dangerous when the velocities are registered as low as twenty miles. The direction of the wind will not be taken into consideration for the present.

If at the regular tri-daily report next following the ordering up of the signals it appears that the danger is not so imminent as was apprehended, the signal will be ordered down. The signal will not be displayed for an indefinitely long space of time.

The immediate area referred to by the respective cautionary signals will be as defined on the map of cautionary-signal stations at this office, which may be generally described as a circle with a radius of one hundred miles, the station being the center.

14. Should it be found necessary to issue signal-orders, after having written the number, day, date, time, and names of the stations for "Up signals" or "Down signals" on the proper form, he will read the *number, day, date, time,* "*up*" or "*down,*" and *names of stations* to his clerk, the latter copying the same in the "signal-order book;" the former checking the names successively with a cross (×) above each on the original form as he reads them.

In order to verify the above, the clerk will read the *number, day, date, time,* "*Up signals*" or "*Down signals*" and *names of stations* from the original form, checking the names successively with a dash (—) beneath each, while the assistant, taking the "Signal-order book," will check the names successively with a cross (×) as the former reads them when verified, and will sign his name. The original form will then be sent to the telegraph-room, and the changes will also be indicated on the "Cautionary-Signal Stations" board.

15. At midnight, after completing the "press-report" and issuing the necessary signal-orders, if any, the "good-night" will be filled up, copied in the "Signal-order book," verified, and then sent to the telegraph-room.

16. On the last day of each month a list of the stations at which corrections are applied to the readings of the barometers, due to eroneous elevations, &c., with the corrections applied to same for the month, will be made up, and a copy furnished to the Chief Signal-Officer or the officer in temporary charge during his absence.

17. Whenever the conditions may be such as to indicate unusually dangerous weather on the Lower Lakes or in the Dominion of Canada, including New Brunswick, &c., he will transmit messages to Professor Kingston, observatory, Toronto, Canada, on the usual form, in the following cipher. The following words will be used for districts:

Collingwood	(for Georgian Bay.)
Saugeen	(for Lake Huron.)
Kingston	(for East Ontario.)
Toronto	(for West Ontario.)
Stanley	(for Lake Erie.)
Montreal	
Quebec	
Farther Point	
Gaspe	
Bathurst	
Shediac	(for north N. B.)
St. John	
Pictou	(for north N. S.)
Halifax	
Sidney	

The cipher words for time and date, in the cipher-book last issued from this office, will be used for the time when a storm may be expected, thus: "Storm (or severe storm) Saugeen, Collingwood, Stanley cash Toronto gaul Kingston neck Montreal Quebec cat," by which it will be understood that storm (or severe storm) is expected to reach Saugeen, Collingwood, and Stanley between 7.35 a. m. and 4.35 p. m., (Washington time,) on the 10th; Toronto, between 4.35 and 11 p. m., on the 10th; Kingston, between 11 p. m. on the 10th and 7.35 a. m. on the 11th; Montreal and Quebec, between 7.35 a. m. and 4.35 p. m. on the 11th. When danger is past, or no longer threatens any Canadian station that has been warned, a dispatch will be sent to Professor Kingston containing the following words:

1. Safety.
2. Name of station or stations.
3. Date and time, (cipher word.)

He will make copies of these messages in the same form for file, reading and verifying or correcting them, as prescribed for the verification of the "signal-orders" issued.

18. At any time when an officer, assistant, or other person at this office charged with the duty of preparing the Synopses and Probabilities for issue to the public, may be relieved from that duty, either temporarily or otherwise by another, the latter will meet the former when he shall be engaged in the preparation of his last bulletin, and fully learn the views which guide him in its preparation.

19. The assistant charged with the preparation of "Facts" for publication will prepare the remarks as to verification of Probabilities to accompany them and also the Weekly Weather Chronicle and the Monthly Weather Review. He will, as part of his regular duties, also study and analyze the river-reports received, and prepare for the Weekly Weather Chronicle a synopsis of the rise and fall of rivers, stating, so far as practicable, the present condition of the several rivers reported upon, and that prob-

bly to follow the conditions reported. In the Monthly Weather Review he will pre- ent a summary of the facts in relation to the different rivers for the month then past.

20. The manuscript copy of the Facts and Verifications will be prepared as rapidly as he maps and reports can be examined, and must be furnished for printing, if practica- le, within three days of the date to which it refers. The manuscript copy of the hronicle will be furnished by 11 a. m. daily; that of the Monthly Review not later han the 10th day of the month succeeding that for which it is prepared. All copy and roofs of the same will be sent to the officer in charge of the printing-room, and will e checked with the initials of the assistant responsible for their preparation.

RULES FOR THE GOVERNMENT OF THE INSTRUMENT-ROOMS IN THIS OFFICE.

1. No person unconnected with the office will be admitted to the room before 12 m., r after 3 p. m., unless accompanied by a commissioned officer.

2. The enlisted men on duty in the room will report promptly at 9 o'clock a. m., and vill not absent themselves during office-hours without the authority of the officer in harge.

3. Enlisted men and messengers will not visit the room except on duty, and, in so isiting, will refer their business to the officer in charge.

4. The volunteering of information to parties not connected with the signal-service s strictly prohibited.

5. Official communications from enlisted men on duty in this room will be transmitted nd forwarded through the regular military channel.

6. In the absence of the officer in charge, the ranking non-commissioned officer on luty in the room will be held responsible for the proper performance of the duties of he attendants, and will require a strict compliance with these rules and regulations.

7. Instruments will not be taken from the room without authority from the officer in harge, or the non-commissioned officer in charge during his absence.

8. No instrument will be issued or allowed to be taken from the buildings connected vith the office without a written order signed by the Chief Signal-Officer, or one of he military assistants in this office, which order shall be at once filed in the property livision by the officer or non-commissioned officer rceiving it.

9. The sergeant in charge of the comparison and examination of instruments will ave the immediate care of all meteorological instruments supplied to stations, and vill issue and carefully pack them for transportation to stations, subject to the order f the officer in charge of the room. He will unpack and examine all instruments re- eived, and report to the officer in charge their number and condition. He will have harge of the comparison of barometers with the standard, and determine the correc- ion to be applied for instrumental error; of thermometers, hygrometers, maximum hermometers, minimum thermometers, and all other instruments with the several tandards. He will have charge of the instrument records, which are as follows:

First. Record of barometer and thermometer cases and boxes issued to observers.

Second. Record of instruments received.

Third. Record of instruments issued and returned from stations.

Fourth. Record of the comparison of instruments—Green's standard barometer, Green's standard maximum and minimum thermometers, and Wild's maximum and minimum thermometers, and Glaisher's standard hygrometers and Edson's hygrodeik.

Fifth. Record of all facts relating to all instruments, and general note-book.

These records will be posted at least once a week. He will keep on his desk a "guide or examining, comparing, testing, and packing meteorological instruments."

10. The sergeant in charge of self-recording instruments and records will have the ntire and exclusive management and care, subject to the approval of the officer in harge of the room, of all self-recording instruments, batteries, wires, and instrument ecords in the room. For general instructions as to the manner of, and time for, chang- ng records, this sergeant will familiarize himself with "Instructions for the management of self-recording meteorological instruments at the office of the Chief Signal-Officer of the Army," and keep a copy of the same on his desk for reference.

11. The records, when taken off the instruments, will be disposed of as follows: Those from Hough's printing-barometer and Beck's aneroid barometer will have the barometric curve traced in ink, and will then be properly filed; those from Hough's meteorograph and barograph will be traced in pencil and filed; those from Beckley's and Draper's rain-gauges will be traced in ink, when rain has fallen, and then filed. The records of the Gibbon self-registering attachment to the anemometer will also be carefully examined, and all letters or lines traced carefully and plainly in ink when the original is faint or uncertain. The above files will be kept in separate drawers provided for their reception in the blank-case marked "K."

12. Extra parts of instruments, such as spindles, screws, &c., will be kept constantly on hand, and their accuracy tested by fitting them to the instruments in use or under examination. The officer in charge will make a special inspection and written report every ten days of the condition of each instrument in all its parts that are liable to wear or friction. In this report the parts of each instrument will be named, with the condition in which each part was found.

13. The watch-sergeant will report for duty at 8 o'clock a. m., and, in company with the sergeant then on duty, will inspect the instruments, &c., relieve that sergeant from duty, and take charge of the instrument-rooms, and will remain on duty until 4 o'clock p. m. He will observe that the rooms are properly swept, the instruments properly dusted, and the fires attended to. He will make an inspection of the instruments with the sergeant coming on duty at 4 p. m., and will turn over to him the keys of the room and of the fire-alarm.

14. The sergeant of the watch will not leave the building until relieved by his successor, or by proper authority, and will, when relieved, turn over to his successor all keys, records, and instruments received during his tour of duty. Between the hours of 4 p.m. and 8 a.m. he will inspect the instrument-room at least once every hour, and, in case of emergency or special service, will call upon the nearest officer for assistance and instructions.

15. The photographer will be held responsible for the proper care of all photographic instruments and material, and will receive his instructions from the officer in charge of the instrument-room. He will also keep an accurate record of all photographs taken, giving the date and number of each negative, with a proof of the same.

16. The machinist, whose duty it is to keep in repair the meteorological instruments, will report for instructions at 9 a.m., daily, during the week, and on Monday of each week will thoroughly clean and oil the machinery of the different instruments

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RULES FOR THE GUIDANCE OF INSPECTING OFFICERS OF THE SIGNAL SERVICE, UNITED STATES ARMY.

1. The outfit of an inspecting officer will consist of the following-named instruments, in addition to the necessary blanks, stationery, &c.:

One standard mercurial barometer;
One standard aneroid barometer;
One standard thermometer;
One standard compass.

2. Upon arriving at a station he will carefully compare all station instruments with his standards, making not less than thirty readings of each instrument, and keeping an accurate record of the observations of both his own and the station instruments and forwarding the same to the Chief Signal-Officer with his inspection report.

3. He will determine by the aid of his compass the accuracy with which the station wind-vane is placed in position upon the true meridian, and, if an error is found, will have it corrected before he leaves the station.

4. He will ascertain by actual measurement whether any change has been made in the elevation of the barometer, thermometer, or rain-gauge since the station was last inspected, and if such change has been made, will report the amount and date of the same.

5. In the event of any change having been made in the location of the office since the date of the last report, he will ascertain the exact elevation of the new office, and of the several instruments above the bench-mark of the station, as given in circular No. 2, issued from the office of the Chief Signal-Officer, under date of January 11, 1873, and is authorized to employ for this purpose, whenever necessary, the city engineer, or, in his absence, any other responsible person.

6. He will note carefully the condition of the office-room or rooms, and when they are found improperly kept or arranged, will see that the proper changes are made before he leaves the station.

7. He will examine in detail the office-books from the date of the last previous inspection, and if errors are found, will point them out and instruct the observer in charge how to correct them. In case of omission on the part of the observer in charge to keep all or part of any record, he will report the fact to the Chief Signal-Officer, with such recommendations as he thinks proper, accompanying the report with a written statement from the observer of the cause of said omission.

8. The condition of the several instruments will be thoroughly examined, and when any fault of location or want of cleanliness is discovered, will attend in person to its correction. The observer will be examined as to his knowledge of the instruments and their management in detail, and when found ignorant of any part will be properly instructed.

9. All map and bulletin frames will be personally inspected, and their condition noted from actual observation, and not from the observer's statement. The date of the several maps and bulletins posted in the frames at the time of inspection will be observed, and if the latest issue is not found therein the observer will be called to account for neglect of duty.

10. A full list will be forwarded with each report of all maps and bulletins issued at the station inspected, showing the name and local address of each person, firm, or institution receiving them.

11. The chairman of the meteorological committee or committees, where more than

e exists at a station, will be visited, and inquiry made as to the conduct of the observer and other men on duty at the station, and the manner in which they perform eir special duties. Suggestions will be invited that tend to increase the usefulness the service by a wider diffusion of the reports.

12. The amount and condition of the property for which the observer is responsible ill be noted in the report, and suitable disposition of unserviceable property recom- ended.

13. The observer in charge will be examined as to his knowledge of the various cir- lars issued from the central office, and when he does not appear to understand any e or part of one, proper instructions will be given him.

14. The inspector will explain to each observer the proper manner of furnishing ems of special interest in the reports to the local newspapers, impressing upon them all times, however, the fact that these items will not be furnished when the papers n be induced to print full reports.

15. The inspection report of each station must be made out and mailed before the in- ecting officer leaves the station.

16. The inspector will be present in person at all the observations made at the sta- on he is inspecting during some one day of his inspection, and will correct on the ot any errors into which the observer may have fallen.

17. He will examine the assistants on duty at the station as to their knowledge of eir practical duties, and also as to the progress made by them in the theoretical owledge of meteorology, and will report the result of such examination to the Chief gnal-Officer.

PAPER 9.

xhibiting the communications sent from and received at the office of the Chief Signal-Officer (exclusive of telegrams) from October 1, 1872, to September 30, 1873.

SENT.

IVISION OF TELEGRAMS AND REPORTS FOR THE BENEFIT OF COMMERCE AND AGRICULTURE.

o heads of departments and bureaus	94	
o observer-sergeants in reference to their duties	7,843	
reply to applications for stations and others similar	68	
o telegraph companies in reference to transmission of weather reports	280	
o boards of trade, chambers of commerce, agricultural societies, &c.,	5,309	
o foreign correspondents relating to this division	368	
eneral and special orders and circulars with reference to this division	5,780	
iscellaneous	1,592	
Total		21,334

SIGNAL-DIVISION.

o heads of departments and bureaus	142	
elating to duties and discipline at signal-service school of instruction and post of Fort Whipple, Va.	638	
elating to recruiting and enlistment	277	
nswers to applications for appointment in the signal-service, United States Army	367	
eneral and special orders and circulars with reference to this division	1,789	
iscellaneous	842	
Total		4,055

PROPERTY-DIVISION.

o heads of departments and bureaus	681	
o manufacturers and others in reference to instruments, equipments, &c	852	
o observer-sergeants and other enlisted men in reference to property and money accounts	8,161	
n reference to quarterly returns of officers	457	
iscellaneous	10,892	
Total		21,043
Aggregate		46,432

RECEIVED.

DIVISION OF TELEGRAMS AND REPORTS FOR THE BENEFIT OF COMMERCE AND AGR CULTURE.

From heads of departments and bureaus	62	
Applications for establishment of new stations	58	
From telegraph companies in reference to transmission of weather reports	208	
From observer-sergeants in reference to their duties	6,163	
From boards of trade, chambers of commerce, and agricultural societies	3,303	
From foreign correspondents relating to this division	118	
Special applications for suggestions for practical use of weather-maps, &c	268	
Reports relative to instruction of observer-sergeants and assistants	3,957	
Mailed reports of observer-sergeants on station	175,324	
Miscellaneous	2,024	
Total		191,48

SIGNAL-DIVISION.

From heads of departments and bureaus	237	
Relating to duties and discipline at signal-service school of instruction and post of Fort Whipple, Va	564	
Relating to instruction in signaling at Fort Whipple, Va., and in different military departments	276	
Relating to recruiting and enlistment	1,017	
Applications for appointment in the signal-service, United States Army	210	
Miscellaneous	1,298	
Total		3,60

PROPERTY-DIVISION.

From heads of departments and bureaus	282	
From manufacturers and others relating to instruments, equipments, &c	538	
From officers concerning property, quarterly returns, &c	1,382	
From observer-sergeants and other enlisted men relating to property and money accounts	13,521	
Regarding property transferred to stations	1,869	
Miscellaneous	4,896	
Total		22,48
Aggregate		217,57
Aggregate sent		46,43
Aggregate received		217,57
Aggregate sent and received		264,00

PAPER 10.

Table showing the number of meteorological instruments purchased and issued from Octobe 1, 1872, to September 30, 1873.

Instruments.	Barometers.	Thermometers.	Hygrometers.	Anemometers.	Anemoscopes.	Maximum thermometers.	Minimum thermometers.	Aneroid barometers.	Thermomotor-
Issued to stations	120	181	38	91	20	37	40	1	
Issued for special uses	13	22	7	10	2	6	6	9	
Issued at last report	84	87	106	76	114	29	28	....	....
Returned for repairs, &c	37	43	27	70	5	14	14	....	
Total number now on station	156	177	114	91	128	50	52	1	....
Total number purchased	64	238	50	7	40	81	81	20	

PAPER 11.

IST OF CONTRIBUTIONS TO THE LIBRARY FROM FOREIGN SOURCES DURING 1872–'73.

1. Cenni storici sul successivo soiluppo della meteorologia e su alcune su importanti pplicazioni. Studio del Dr. Antonio Abetti.

2. Die Regenverhältnisse des Königreichs Hannover, nebst ausfürhrlicher Darstel- ung aller den atmosphärischen Niederschlag und Verdunstung. Von Dr. M. A. F. 'restel. Emden, 1864.

3. Die Witterungsverhältnisse des Jahres 1870. Von Dr. H. Schoder. Stuttgart, 1872.

4. Normale Wärmemittel von Stuttgart und Heidenheim. Von Dr. H. Schoder. tuttgart, 1872.

5. Hülfstafeln zur barometrischen Höhenbestimmung, nebst einer Anleitung zur ntersuchung und zum Gebrauch des Aneroidbarometer. Von Dr. H. Schoder. Stutt- art, 1872.

6. Bericht über die Verhandlungen der Meteorologen-Versammlung zu Leipzig.

7. Die koenigliche staats- und landwirthschaftliche Academie Eldena bei der Univer- ität Greifswald. Von Dr. E. Baumstark. Berlin, 1870.

8. Circular No. 1, från Upsala Observatorium till de of Läneus kongliga Hushåll- ings Sallskaper utsedde meteorologiska Observatorer.

9. Die Winde in ihrer Beziehung zur Salubrität und Morbilität. Ein Beitrag zur edizinischen Witterungs- und Klima-Kunde. Von Dr. M. A. F. Prestel. Emden, 864.

10. Femaarsberetning fra det kongelige Landhusholdningsselskabs meteorologiste omitee for 1866–'70. Bed Poul la Cour. 1872.

11. Der Sturmwarner und Wetteranzeiger. Von Dr. M. A. F. Prestel. Emden, 1870.

12. Die periodischen und nicht-periodischen Veränderungen des Barometerstandes, wie die Stürme und das Wetter über der Hannoverschen Nordseeküste. Von Dr. M. . F. Prestel. Emden.

13–15. Magnetische und meteorologische Beobachtungen auf der k. k. Sternwarte zu 'rag in den Jahren 1869, 1870, und 1871. Von Carl Hornstein. Prag. 3 vols.

16–18. Specola reale di Napoli. Osservazioni meteoriche dall' Luglio, Agosto, ettembre, 1872, fatte dall' astronomo Professore F. Briachi. 3 vols.

19. Annuaire à l'usage de Constantinople pour l'année bissextile 1872. Publié par Observatoire impérial météorologique. Constantinople.

20–21. Bulletin de l'Observatoire impérial météorologique de Constantinople. An- ées 1870–1871. 2 vols.

22. Académie des sciences. Physique du globe. Note sur les courants magnétiques bservés dans les fils télégraphiques pendant l'aurore boréale du 4 février. Par M. H. 'arry.

23. Sur les pluies de poussière et les pluies de sang. Par M. H. Tarry.

24. Conférences militaires belges. Télégraphie électrique de campagne. Par Van en Bogaert. Paris, 1870.

25. Annuaire météorologique de l'Observatoire physique central pour l'année 1873. 'aris.

26. Applications nouvelles de la science et de l'industrie à l'art de la guerre. Par . Wauwermans. Paris, 1869.

27. Études sur quelques tempêtes. Par Hugo Hildebrand Hildebrandsson. Gothem- ourg, 1872.

28. Relatorie do service do Observatorio de infante d'Luiz no anno meteorologico de 870–'71. Lisboa, 1872.

29. Observaciones magneticas y meteorologicas del Real colegio de Belen de la Com- añia de Jesus en la Habana. Año meteorologico de 30 de Noviembre de 1870 á 30 de oviembre de 1871. (2 copies.) Habana, 1872.

30. Memoria de la marcha regular ó periodica ó irregular del barometro en la Habana esde 1858 á 1871 inclusivo. Por el R. P. B. Viñes, S. J. Habana, 1872.

31. (Chart.) Commission européenne du Danube. Observations météorologiques rises à l'embouchure de Soulina.

32. (7 charts.) Meteorological observations, St. Xavier's College, Calcutta, January, 869, to June, 1872.

33. Results of meteorological observations made at the Radcliffe Observatory, Oxford, n the year 1869. By the Rev. Robert Main, Oxford, 1872.

34. Suggestions on a uniform system of meteorological observations. Utrecht, 1872.

35. Magnetic survey of the east coast of France in 1869. By the Rev. Steven J. 'erry.

36. Report upon the geological survey of Newfoundland for the year 1871. By A. urray.

37. Account of the operations of the great trigonometrical survey of India. By Col. . S. Walker.

38. Observatoire impérial météorologique. Arabic meteorology.

39. Annalen des physikalischen Central-Observatoriums. Herausgegeben von H Wild. Jahrgang 1870. St. Petersburg 1872.

40. Newfoundland almanac, 1873.

41. Report of the Kew committee for the fifteen months ending October 31, 1872.

42. L'aéronaute. Bulletin mensuel international de la navigation aérienne, janvie 1873.

43–44. Monthly record of results of observations in meteorology, terrestrial magnetism, &c., &c., taken at the Melbourne Observatory, September and October, 1872 under the superintendence of Robert L. J. Ellery.

45. Om Wind og Vejr, meteorologiens Hovedresultater af H. Mohn. Christiania, 1872

46. Monthly notices. Meteorological Society of Mauritius, November, 1872.

47. Meteorological Observatory, Pamplemousses. "Results of observations taken i 1871."

48. Tabelle zur Schiffahrt im grössten Kreise, entworfen von Dr. Carl Friesach, k. k Hauptmann in d. A.

49–40. Sur les pluies de poussier et les pluies de sang par M. H. Tarry.

51. Untersuchungen über die Theorie und Praxis des Wagebarometers. Von Paul Schreiber. München, 1872.

52. Anno 24° ed 25°. Della corrispondenza scientifica. Bulletino delle osservazioni ozonometriche meteorologiche, fatte in Roma da Caterina Scarpellini.

53. Schweizerisches Bundesblatt, Februar 1873.

54. Official No. 16. Quarterly weather-report of the meteorological office, London. Part 1, January to March, 1872.

55. Daily weather-reports, January to June, 1872. Presented by the meteorological office, London.

56. Die Klimatologie Norwegens. Von H. Mohn. Christiania, 1872.

57. Anno XXV° della corrispondenza scientifica. Bulletino delle osservazioni ozonometriche meteorologiche, fatte in Roma da Caterina Scarpellini.

58. Meteorolgical observations, St. Xavier's College Observatory, Calcutta, for July to December, 1872.

59. Monthly records of results of observation in meteorology, terrestrial magnetism, &c., taken at the Melbourne Observatory during January, February, March, April, May, June, July, and August, 1872, under the superintendence of Robert L. J. Ellery.

60. Discussion of the meteorological and magnetical observations made and collected at the Flagstaff Observatory, Melbourne, and at various stations in the colony of Victoria, March, 1858, to February, 1859.

61. Results of the meteorological observations taken in the colony of Victoria, during the years 1859–'62, and of the nautical observations collected and discussed at the Flagstaff Observatory, Melbourne, during the years 1858–'62. By George Newmayer.

62. Results of the magnetical, nautical, and meteorological observations made and collected at the Flagstaff Observatory, Melbourne, and at various stations in the colony of Victoria, March, 1858, to February, 1859.

63. Sammlung von Hülfstafeln zur Berechnung barometrischer Höhenbestimmungen. Zusammengestellt von A. Moritz und H. Kiefer. Tiflis, 1870.

64. Osservazioni meteorologiche con speciali istruzioni intorno a quelle pluviometriche raccolte sotto la direzione del P. Francesco Denza, direttore dell' osservatori del R. Collegio Carlo Alberto in Moncalieri. Torino, 1873.

65. The Greek Philological Society in Constantinople, Tomoe E, 1870–71.

66. Nouvelle classification des nuages, par André Poey. Paris, 1873.

67. Zeitschrift der oesterreichischen Gesselschaft für Meteorologie. Redigirt von Dr. C. Jelinek und Dr. J. Hann. Band 7. Wien, 1872.

68. Meteorologische Beobachtungen angestellt auf der Leipziger Universitäts-Sternwarte im Jahre 1871. Von Prof. Dr. C. Bruhns.

69. Die physikalischen Einwirkungen des Waldes auf Luft und Boden und seine klimatologische und hygienische Bedeutung. Von Dr. Ernst Ebermayer. Aschaffenburg, 1873.

70. Graphische Darstellungen über den Gang der Boden- und Luft-Temperatur im Freien und im Walde. Extra-Beigabe zu Dr. E. Ebermayer. Aschaffenburg, 1873.

71. Ricerche fisico astronomiche intorno all' uranolito caduto nell agro Romano i 31 di Agosto 1872, del padre G. Stanislaus Ferrari.

72. Om Askvadren I sverige år 1871, af Hugo Hildebrand Hildebrandsson, Upsala Universitetets, årsskrift, 1873, Upsala, 1873. *With* Bulletin météorologique mensuel de l'Observatoire de l'Université d'Upsal. (Vol. 5, Dec., 1872, No. 1.)

73. Monthly record of observations in meteorology, &c., at Melbourne Observatory, November and December, 1872, and January, 1873. (Robt. L. J. Ellery.)

74. Monthly notices, Meteorological Society of Mauritius. (February 13, 1873.)

75. Stonyhurst College Observatory. Results of meteorological and magnetical observations, 1872.

76. Annales de la Societé d'émulation du département des Vosges. Tome 14e, 1er ahier. Paris, 1871.

77. Le stelle cadenti del 27 Novembre 1872, nota del P. Angelo Secchi. Roma, 1873.

78. Specola reale di Napoli. Osservazioni meteoriche dell' Ottobre, Novembre, Di- embre, 1872, fatte dall' astronomo Professore F. Brischi. (3 parts.)

79. Monthly record of meteorological observations taken at Melbourne Observ- tory, for February, 1873, under the superintendence of Robert Ellery.

80. Notes on the climate of Victoria, by same.

81. Det Kongelige Norske Videnskabers Selskabs Skrifter i det 19de Aarhundrede, de Binds, 1st Hefte, (med 6 Plancher.) Throndhjem, 1872.

82. Die Pflanzenwelt Norwegens. Ein Beitrag zur Natur- und Culturgeschichte Nord- uropas. Von Dr. F. C. Schübeler. (Allgemeiner Theil.) Christiania, 1873.

83. Norsk Meteorologisk Aarbog fur 1871, udgivet af det Meteorologiske Institut. hristiania, 1872.

84. Annalen des physikalischen Central-Observatoriums. Herausgegeben von H. ild. Jahrgang 1871. St. Petersburg, 1873.

85. Jahrbücher der k. k. Central-Anstalt für Meteorologie und Erdmagnetismus. Von arl Jelinek und Carl Fritch. Wien, 1873.

86. Mittheilungen aus dem Archiv des Voigtländischen alterthumsforschenden ereins. 41ster, 42ster und 43ster Jahresbericht.

87. The cyclone in the Bay of Bengal in June, 1872, by W. G. Wilson, officiating mete- rological reporter to the governor of Bengal.

88. Meteorolog-Bulletin des physikalischen Central-Observatoriums. St. Petersburg, 872–'73.

89. Bulletin international de l'Observatoire de Paris, 1872–'73.

90. Telegrafische Witterungs-Berichte. Von k. k. meteorologischen Central-Institut ohe-Warte bei Wien, 1873. F. Osnaghi.

PAPER 12.

ACCOUNT OF SALES OF MAPS.

1873.			
arch	31.	30 maps, in two colors, at 3 cents	$0 90
pril	15.	60 maps, in two colors, at 3 cents	1 80
ay	1.	100 maps, manifold	2 75
	8.	30 maps, in one color, at 2 cents	60
	12.	30 maps, in one color, at 2 cents	60
	13.	50 maps, in one color, at 2 cents	1 00
une	9.	60 maps, in one color, at 2 cents	1 20
	10.	10 maps, in one color, at 2 cents	20
	12.	5 maps, in one color, at 2 cents	10
	17.	75 maps, in one color, at 2 cents	1 50
	17.	50 maps, in one color, at 2 cents	1 00
	20.	100 maps, manifold	2 75
	25.	50 maps, in one color, at 2 cents	1 00
	26.	25 maps, without reports, at 1½ cents	37
uly	17.	333 maps, in two colors, at 3 cents	9 99
	17.	200 maps, in one color, at 2 cents	4 00
	20.	25 maps, in one color, at 2 cents	50
	25.	13 maps, in two colors, at 3 cents	39
ug.	11.	104 maps, in two colors, at 3 cents	3 12
	25.	93 maps, in two colors, at 3 cents	2 79
ept.	11.	14 maps, in two colors, at 3 cents	42
	19.	100 maps, manifold	2 75
	19.	50 maps, in one color	1 00
	25.	93 maps, in two colors, at 3 cents	2 79
	25.	5 maps, in one color, at 2 cents	10
	30.	30 maps, in two colors, at 3 cents	90
			44 52

PAPER 13.

STATISTICS OF STATIONS.

Monthly and annual mean pressure, October, 1872, to September, 1873.

Stations.	1872.			1873.									Annual mean.
	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	
Alpena, Mich	....	29.977	30.105	30.029	29.985	30.001	29.933	29.963	29.926	29.961	30.042	29.903	....
Augusta, Ga	30.120	30.177	30.240	30.126	30.068	30.169	30.019	29.983	30.041	30.090	30.071	30.079	30.100
Baltimore, Md	30.107	30.106	30.175	30.106	30.033	30.021	29.947	30.014	29.999	30.026	30.064	30.091	30.057
Boston, Mass	30.067	29.993	30.061	30.072	29.909	29.858	29.902	29.992	29.957	29.987	30.056	30.052	29.992
Breckenridge, Minn	30.057	30.164	30.386	30.225	30.027	30.050	29.994	29.865	29.734	29.853	29.914	29.923	30.016
Buffalo, N. Y	30.016	29.947	30.028	29.964	29.961	29.881	29.855	29.917	29.883	29.915	29.994	29.990	29.945
Burlington, Vt	30.059	29.995	30.059	30.058	29.931	29.864	29.910	29.980	29.900	29.932	30.044	30.016	29.979
Cairo, Ill	30.156	30.190	30.294	30.130	30.054	30.082	29.909	29.865	29.929	30.004	30.028	30.046	30.057
Cape May, N. J	30.098	30.101	30.167	30.087	30.014	30.006	29.943	30.007	30.001	30.033	30.054	30.088	30.049
Charleston, S. C	30.058	30.140	30.207	30.112	30.069	30.153	30.006	29.980	30.039	30.097	30.077	30.054	30.082
Cheyenne, Wyo	30.048	29.950	29.914	29.831	29.778	29.912	29.910	29.854	29.996	30.089	30.112	30.051	29.957
Chicago, Ill	30.093	30.080	30.234	30.051	30.076	30.000	29.901	29.868	29.934	30.009	30.012	30.008	30.022
Cincinnati, Ohio	30.160	30.186	30.282	30.148	30.023	30.075	29.933	29.915	29.947	30.018	30.038	30.034	30.063
Cleveland, Ohio	30.080	30.069	30.178	30.048	30.005	29.990	29.906	29.897	29.907	29.959	29.991	29.996	30.002
Corinne, Utah	30.132	30.192	30.094	30.092	29.964	30.108	30.028	29.932	29.984	30.043	30.074	30.063	30.058
Davenport, Iowa	30.110	30.118	30.295	....	30.050	30.019	29.885	29.882	29.883	29.954	30.000	29.993	....
Denver, Colo	30.093	30.034	29.992	29.916	29.851	29.979	29.971	29.915	30.007	30.106	30.126	30.070	30.005
Detroit, Mich	30.051	30.014	30.127	30.019	30.005	29.967	29.885	29.912	29.905	29.949	30.007	29.993	29.986
Duluth, Minn	29.988	29.996	30.220	30.063	29.933	29.960	29.951	29.945	29.839	29.882	29.968	29.916	29.971
Escanaba, Mich	30.004	29.901	30.003	29.983	29.856	29.886	29.907	29.875	29.866	29.922	29.998	29.946	29.936
Fort Benton, Mont	30.040	30.093	30.085	29.926	29.926	29.903	30.101	29.939	29.930	29.996	30.001	30.069	....
Fort Sully, Dak	29.801	29.955	30.098	29.967	30.105	30.057	30.050	29.906	29.788	29.786	29.820	29.901	....
Galveston, Tex	30.083	30.160	30.203	30.130	30.068	30.135	30.010	29.900	29.990	30.070	30.050	30.020	30.068
Grand Haven, Mich	30.021	29.963	30.119	29.953	29.963	29.947	29.865	29.878	29.890	29.940	29.996	29.976	29.959
Indianapolis, Ind	30.093	30.112	30.218	30.056	30.044	30.030	29.896	29.895	29.905	29.982	30.013	30.032	30.023
Indianola, Tex	29.927	29.945	29.927	29.886	30.062	30.128	30.021	29.900	29.989	30.065	30.065	30.025	29.995
Jacksonville, Fla	30.079	30.151	30.231	30.137	30.124	30.184	30.053	29.980	30.032	30.092	30.071	30.023	30.095
Keokuk, Iowa	30.017	30.065	30.221	30.032	30.044	30.010	29.864	29.863	29.877	29.904	29.966	29.990	29.992
Key West, Fla	29.959	30.031	30.117	30.075	30.129	30.154	30.044	29.975	30.048	30.070	30.059	29.985	30.054
Knoxville, Tenn	30.130	30.180	30.230	30.119	30.056	30.107	29.960	29.927	29.993	30.061	30.030	30.075	30.072
La Crosse, Wis	....	30.036	30.254	30.119	30.048	30.017	29.928	29.922	29.888	29.955	30.026	29.992	....
Lake City, Fla	30.043	30.230	30.482	30.099	30.107	30.171	30.035	29.967	30.036	30.090	30.073	30.021	30.087
Leavenworth, Kans	30.069	30.126	30.300	30.116	30.036	30.015	29.851	29.794	29.840	29.915	29.951	29.977	29.999
Lexington, Ky	....	30.113	30.210	30.053	30.048	30.082	29.921	29.882	29.953	30.027	30.022	30.051	....
Louisville, Ky	30.082	30.115	30.205	30.049	30.047	30.380	29.905	29.880	29.931	30.069	30.016	30.046	30.060

Marquette, Mich	30.000	29.911	30.116	30.296	29.906	29.941	29.958	29.959	29.879	29.922	30.004	29.949	29.986
Memphis, Tenn	30.149	30.204	30.274	30.158	30.078	30.127	29.964	29.906	29.958	30.030	30.035	30.048	30.074
Milwaukee, Wis	30.029	29.977	30.125	20.937	29.926	29.921	29.863	29.939	29.913	29.977	30.034	30.005	29.970
Mobile, Ala	30.124	30.192	30.256	30.160	30.138	30.199	30.077	29.981	30.044	30.106	30.044	30.037	30.113
Montgomery, Ala	30.105	30.173	30.232	30.142	30.100	30.168	30.024	29.956	30.018	30.082	30.058	30.060	30.093
Mount Washington, N. H	30.057	29.789	29.624	29.722	29.597	29.620	29.837	30.034	30.137	30.228	30.266	30.149	29.921
Morgantown, W. Va	....	....	....	....	29.996	29.965	29.856	29.907	29.952	29.991	29.999	30.037	....
Nashville, Tenn	30.164	30.221	30.306	30.173	30.059	30.112	29.958	29.894	29.966	30.039	30.027	30.056	30.081
New Haven, Conn	....	....	....	30.053	29.951	29.920	29.909	30.005	29.978	30.005	30.066	30.076	....
New London, Conn	30.073	30.040	30.110	30.080	29.950	29.930	29.920	30.020	29.970	30.020	30.080	30.080	30.022
New Orleans, La	30.077	30.139	30.200	30.115	30.085	30.158	30.020	29.923	30.002	30.063	30.038	30.016	30.069
New York, N. Y	30.009	30.047	30.121	30.094	30.034	29.948	29.936	30.018	30.023	30.020	30.069	30.087	30.033
Norfolk, Va	30.099	30.124	30.190	30.107	30.029	30.071	29.955	30.008	30.023	30.070	30.067	30.094	30.069
Omaha, Nebr	30.000	30.076	30.236	30.016	30.025	30.030	29.893	29.752	29.848	29.880	29.900	29.955	29.967
Oswego, N. Y	30.014	29.948	30.032	30.002	29.972	29.918	29.921	29.996	29.951	29.968	30.145	30.011	29.998
Pembina, Dak	....	30.003	....	....	....	30.018	30.001	29.901	30.082	29.842	29.917	29.938	....
Philadelphia, Pa	30.105	30.099	30.160	30.113	30.016	30.001	29.947	30.009	29.990	30.023	30.065	30.096	30.052
Pittsburgh, Pa	30.040	30.060	30.160	30.040	30.010	30.000	29.880	29.930	29.928	29.990	29.990	30.016	30.004
Portland, Me	30.072	30.009	30.036	30.064	29.852	29.809	29.870	29.959	29.916	29.946	30.026	30.040	29.988
Portland, Oreg	30.130	30.249	23.125	30.171	30.051	30.090	30.137	30.114	30.052	30.073	30.070	30.071	30.111
Punta Rassa, Fla	30.010	30.095	30.165	30.106	30.150	30.192	30.072	29.996	30.063	30.100	30.085	30.006	30.087
Rochester, N. Y	30.030	29.950	30.050	29.990	29.930	29.879	29.920	29.969	29.913	29.933	30.014	29.997	29.964
San Diego, Cal	29.991	30.075	30.028	30.030	30.078	30.070	30.040	29.940	29.970	29.960	29.970	29.930	30.007
San Francisco, Cal	30.043	30.141	30.106	30.138	30.076	30.161	30.118	29.962	29.998	29.954	29.981	29.938	30.051
Santa Fé, N. Mex	29.900	29.830	29.783	29.726	29.690	29.810	29.700	29.700	29.840	29.930	29.960	29.910	29.815
Savannah, Ga	30.090	30.147	30.224	30.130	30.100	30.171	30.030	29.984	30.050	30.106	30.080	30.061	30.097
Shreveport, La	30.083	30.139	30.213	30.100	30.058	30.116	29.972	29.894	29.962	30.039	30.045	30.042	30.055
Saint Louis, Mo	30.075	30.104	30.232	30.062	30.056	30.052	29.883	29.839	29.901	29.989	30.025	30.044	30.021
Saint Paul, Minn	30.035	30.040	....	30.100	30.041	30.026	29.928	29.849	29.796	29.874	29.943	30.134	....
Toledo, Ohio	30.053	30.035	30.161	30.026	30.010	29.979	29.886	29.904	29.898	29.949	30.014	30.007	29.990
Vicksburgh, Miss	30.146	30.260	30.282	30.160	30.090	30.203	30.020	29.950	30.040	30.110	30.090	30.100	30.020
Virginia City, Mont	29.834	29.822	29.724	29.670	....	....	....	....	29.755	....	....	....	....
Washington, D. C	30.098	30.101	30.182	30.117	30.024	30.014	29.941	30.006	29.993	30.028	30.052	30.093	30.054
Wilmington, N. C	30.106	30.147	30.218	30.123	30.050	30.118	29.991	29.984	30.034	30.086	30.070	30.073	30.080
Wood's Hole, Mass	....	....	....	30.020	29.930	29.909	29.920	30.030	30.000	30.040	30.090	30.100	....
Wytheville, Va	....	....	....	....	29.795	29.832	29.693	29.690	29.778	29.835	29.832	29.871	....

Monthly and annual mean temperatures, October, 1872, *to September,* 1873.

Stations.	1872.			1873.									Annual means.
	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	
	°	°	°	°	°	°	°	°	°	°	°	°	°
Alpena, Mich	45	31.4	17.1	15.6	17.8	25.7	36.3	46.9	60.2	63.9	63.9	53.7	39.79
Augusta, Ga	62	48.9	41.7	44.8	49.9	52.3	64.2	72.4	78.6	80.8	78.8	74.4	62.41
Baltimore, Md	58.3	43.6	32.2	34	35.5	40.3	51.9	62.3	73.9	79.4	76.3	68	54.64
Boston, Mass	52.1	40.7	24.1	26.3	27.5	34.2	44.6	56.8	67.2	72.8	68.7	61.7	48.05
Breckenridge, Minn	45	21	0.4	2.3	8.6	16.4	35	52	69.5	67.6	67	49.1	36.15
Buffalo, N. Y	50.1	37.5	26.1	24.8	26	31.2	42	54.5	67.5	69.5	67.2	59.3	46.3
Burlington, Vt	47	35.4	15.4	17.5	18.9	28	41.3	54	66.01	70.8	67.2	59.3	43.4
Cairo, Ill	57.6	40.7	29.2	30.3	38.4	46.5	55.4	66.7	77.5	78.7	78.2	68.9	55.67
Cape May, N. J	56.2	43	31.4	32.7	32.2	37	46.8	55.9	67.7	73.2	72.2	66.5	51.23
Charleston, S. C	64.8	53.8	45.8	48.1	53.4	53.6	64.5	74.9	78.1	80.9	77.7	76	64.3
Cheyenne, Wyo	45.2	28.2	23.4	24.6	25	39.7	34.4	49.2	69.5	69.7	69.2	55.9	44.5
Chicago, Ill	50.8	32.5	20.3	20.7	24.6	34.6	42.3	53.9	70.2	71.2	71.7	62.4	46.26
Cincinnati, Ohio	56.9	40.4	29.5	31.1	35.9	41.9	53.9	66.5	77.8	77.6	76.3	67.6	54.61
Cleveland, Ohio	52	35.8	21.9	24	26.9	32.9	44.8	57.3	70.2	71.9	70.6	63.2	47.62
Corinne, Utah	48.9	29.6	31.2	31.4	24.3	36.7	44.3	51.8	69.1	76.2	73.3	61.4	48.18
Davenport, Iowa	52.1	32.9	18.7	17.1	23.9	36.7	46.9	59.6	77.9	75.6	78	62.3	48.47
Denver, Colo	50	32.5	27.6	30	30.3	44	39.8	53.3	68.9	71.4	70.8	59.7	48.19
Detroit, Mich	49.1	32.9	20	20.6	22.9	30.9	42	56.9	69.3	70.5	70.1	60.9	45.5
Duluth, Minn	46.6	26.9	5	7.6	15.1	25.3	38.4	45.8	58	64.5	64.4	53.1	37.55
Escanaba, Mich	47	27.2	11.3	13.3	15.4	23.9	36.2	50.9	69.3	68.4	65.2	52.1	40.01
Fort Benton, Mont	47.2	24.3	11.3	16.5	18.4	36.4	40.7	52.4	64.1	69.8	69.3	53.2	41.97
Fort Sully, Dak	52.3	24.5	11.5	9.6	14.7	32.4	41.5	54.5	74.2	74.3	75.5	57.3	43.52
Galveston, Tex	71.9	58.2	51.4	49.8	59.3	63.2	68	75	82	83	83	80	68.73
Grand Haven, Mich	48.3	33.4	20.5	19.2	22.6	30.2	41.9	54.9	69.1	68.2	69.1	57.8	44.6
Indianapolis, Ind	50	36	24.4	25	30.4	38.5	50.3	64	77	75.5	75	64	50.84
Indianola, Tex	71.5	57.5	50.3	51.5	60.3	65.3	67.6	75.5	82.3	82.2	82.1	79.8	68.82
Jacksonville, Fla	68.2	58	51	52.4	59.2	58.9	69.2	75.6	80	81.6	81.6	78.5	67.85
Keokuk, Iowa	55.5	34.6	20.5	17.6	26.1	38.7	48.5	61.5	77.9	76.3	78.7	63.8	49.97
Key West, Fla	78.2	73.7	69.1	69.9	72.1	71.5	76.8	82.4	83.6	83	83.5	82.5	77.19
Knoxville, Tenn	55.3	40.2	33.5	34.6	41.2	43.8	56.8	68.8	74.3	76.2	75.3	68.6	55.71
La Crosse, Wis	......	27.3	9.7	6.7	17.7	30.7	43.7	57.5	73.6	72.4	71.9	56.6	......
Lake City, Fla	66.7	56.1	49.7	50.3	57.6	57.8	67.7	75.2	77.7	79.8	78.6	76.8	66.16
Leavenworth, Kans	56.4	35	21	19	30	42.1	48.6	63	75.5	77.5	79.2	65.4	51.05
Lexington, Ky	......	38.2	27.9	30.4	35.6	40.9	53.1	64.7	73.7	76.5	73.7	66.8	......
Louisville, Ky	56.6	39.5	29.4	31.1	36.8	43.3	54.6	67	78	79	78	69.5	55.23
Lynchburgh, Va	55.9	40.9	32	33.6	38.5	42	59.5	62.7	72.3	75.7	73.1	69.1	54.6
Marquette, Mich	45.5	29.1	12	12.5	18	25	35.4	45.2	59	63.1	63.4	51.4	38.3
Memphis, Tenn	59	44	34	35	44	50	60	69	79	78	79	71	58.5
Milwaukee, Wis	47.2	31.4	15	16.8	21	32.2	38.9	49.7	66.9	68.1	70.5	59.8	43.12
Mobile, Ala	65.6	54	47.9	46.3	56.1	57	65.7	73.9	79.4	82.2	80.2	76.1	65.36
Montgomery, Ala	63.3	50.2	45.5	44.1	53.3	52.1	64.2	67.1	79.2	81.8	80.2	75	63
Mount Washington, N. H	29.6	18.5	3.8	10.1	7.3	12.4	22.6	30.4	42.9	47.1	44.3	38.1	25.59
Nashville, Tenn	58.5	42.8	33.9	35.4	43.6	47.4	59.4	70	77.9	80	80.1	72.5	58.43
New Haven, Conn	......	......	......	24.7	26.9	33.2	44.2	55.9	67	72.3	69	62.7	......
New London, Conn	51.3	40.4	23.6	25.5	26.3	32.9	43.6	54.4	64.9	71.2	69	61.8	47.07
New Orleans, La	68.4	57.4	51.4	49.5	60.5	60.4	66.9	73.7	80.1	82.4	81.2	78.7	67.55
New York, N. Y	54.1	40.8	27.7	28.5	29.3	35.7	46.3	57.6	68.9	73.9	71.4	65.4	49.96
Norfolk, Va	58.9	46.2	36.8	41.7	41.3	45.5	56.7	64.1	74.2	79.3	76.7	70.2	57.55
Omaha, Nebr	53	30.6	19	16.9	26.9	38.2	44.2	59	74.4	75.7	77.1	60.6	47.96
Oswego, N. Y	50.3	38.3	23.9	23.7	24.3	30.2	42.6	53.1	65.3	70.4	66.2	60.8	45.75
Pembina, Dak	......	18.4	......	......	......	12.9	33.9	52.3	66.1	65.2	64.4	46.8	......
Philadelphia, Pa	52.9	41.2	28.9	28.9	29.8	37.1	45.3	59.6	70.6	76.4	72.3	66.1	50.75
Pittsburgh, Pa	59	36	25	29	29	36	48	61	72	74	71.9	63.6	49.79
Portland, Me	47.6	36.3	18.3	19.8	21.8	31	40.9	52.4	62.3	68.4	65.1	58.3	43.51
Portland, Oreg	53	41.6	41.9	44.4	40.6	48.1	51.3	55.9	61.5	68	67.7	61.9	53.89
Punta Rassa, Fla	75	68.3	63.5	62	66.4	65.2	72.8	78.8	80.6	80.9	80.5	80.1	72.82
Rochester, N. Y	47	34	20	20	22	29.5	42	55.8	67.7	70.7	66.7	60.3	44.64
San Diego, Cal	62	58.5	54.6	53	52.9	57	58	60	63	66	68	68	60.08
San Francisco, Cal	58.6	55.7	52	54.1	50.4	54.2	54.4	55.6	57.8	57.9	59.1	57.8	55.63
Santa Fé, N. Mex	49	33	32.6	29	32	44	44	56	65.6	71	66	61	49.02
Savannah, Ga	64	54	46.5	49	55	55	67	74	78.8	81	80	76.4	65.05
Shreveport, La	65.5	50	42	42.2	52	58.9	64.8	72.9	79.6	81.6	81.7	75.7	63.91
Saint Louis, Mo	57.7	38.1	25.7	26	33.6	42.6	51.2	65.1	77.1	77.5	78.5	66.6	53.3
Saint Paul, Minn	47.2	23.8	......	6.7	14.3	26.7	41.9	55.1	73	71	70.7	41	......
Toledo, Ohio	51.3	34.3	21.1	22.2	26.6	34.9	45.9	60.2	74	74	72.1	62.6	48.20
Vicksburgh, Miss	65.1	51.3	45	43	54	58.5	66.2	73	80	82	82	76	64.67
Virginia City, Mont	43.9	23.6	18.8	23.4	15.6	......	......	......	56.9	......	......	......	......
Washington, D. C	55.8	42.2	31	31.7	31.1	41.5	53.3	63.6	76.5	80.3	74.9	68.3	54.18
Wilmington, N. C	62.4	51.7	41.5	47	50.2	51.6	62.9	71.2	78	81.4	79.6	74.1	62.63
Woods' Hole, Mass	......	......	......	29	31	33.9	42	51	61	68	68	62	......
Wytheville, Va	......	......	......	......	35.5	38.3	49.8	59.5	67.8	70.5	68.7	61.6	......
Morgantown, W. Va	......	......	......	......	32.8	38.3	50.2	61.5	70.6	71.2	70.6	62.8	......

BALTIMORE, MD.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	66	53	60	45	40	17	48	33	41.5	15.5	38.5	22	58.5	40.5	59	47	75.5	49	88	72	94	77	93	70
2	65	47	54	46	55	36	47.5	31.5	32	18	37	27	70	50.5	59	47	81	50	93	77	91	75	84.5	70.5
3	75	53	54	44	50	37	45	35.5	48	15.5	35	12.5	66	43	56.5	45.5	80	58	96.5	75	90	73	83.5	61.5
4	74	61	56	43	43	33.5	49	34.5	62	41	21	5	64	47	65	44	82	59	92	76	81	69.5	87.5	72.5
5	73	58	56	37	41.5	31	44	33	50	35.5	28.5	10	63	46	71.5	46	87	70	91	71.5	81.5	66	90	72
6	80	66	56.5	50	52	29	44.5	29	47	38	39	13	57	44	70	51	88	65	84	68.5	84	62	76.5	63
7	74	62	60	49	45.5	34.5	36	24	48	35	50.5	13.5	61	49	60	49.5	79	67	83.5	62	89	66	72	59
8	66	54	61	43	45	34	40	23	53	35.5	61	32	64	49.5	54	48	80	57	84	64	87.5	70.5	73	60
9	68	46	55	41	42	22	40	28	34	19	57.5	38.5	75	53	65	52	83.5	61	83	64	86	72	75	54
10	75	50	54	38	30	18	34.5	21	41.5	17.5	47	36	63	45	66	52	80	61.5	86	64	82.5	68.5	72	53
11	56	45	55	38	37	20	28	14	53	33.5	57	35	63	47	65	54.5	77	60.5	85	69	83	65	75	58
12	57	40	63.5	44.5	34	24	37	22	49.5	31	43	35	51	42	70.5	51	80.5	66	83	65	81	66	78	58
13	60	49	52	40.5	37	24	43	27	36	24.5	51	33	60	42	83	54	79	59	84	69	72	65	84	62
14	56	43	53	46	49	27	56	37	34	22.5	55	32	67.5	46.5	67	48	77	53	94.5	69	73	65	67	52
15	56	42	49	34	52	38	41	36.5	39	23.5	68	39	65	44.5	70	50.5	71	65	91	74	79	66	67.5	40
16	69	46	39.5	30.5	46.5	32	58	38	40.5	31.5	50	39	54.5	40.5	72	49.5	88.5	65	90	74.5	84	67	79	41
17	62.5	45	41	28.5	40	32.5	51	35	48.5	37	60	33	46.5	38.5	71	53.5	89	74	93	73	75	64	71	55
18	61	53	44.5	31	40	28	37	27	49	34	62.5	32	56.5	40.5	73.5	50	88	67	96	76	76	64	74	61
19	61	46	47	28	39	30	32.5	22	55	36.5	59.5	41.5	58	45	66	54.5	93	73	88	74	80	69	76.5	63
20	59	39	44	32	43	30	39	23	50	37	51	36.5	59	39	59	54	93	77.5	83	66	76	68	67	52
21	69	47	40	25.5	37	27	41	33.5	43	30	42.5	31	55	44	57	52	88	66.5	85	67	83	71	62	45
22	69	52	42	34	30	6.5	43	35.5	35	24.5	43	32.5	58	(*)	66	56	89.5	68	86	63	85	71.5	66	44
23	69	55	50	36	40	17	38	30	32	11.5	64	30.5	46	(*)	77	60	79	65	90	66	90	71.5	73	60
24	54	49	54	35	28	8.5	35	28	24	2	55	29	55	(*)	87.5	62	72	64	92	71.5	76	61	73	61
25	65	56	62	39	19	8.5	37	19	37	20	35	29	52.5	(*)	84	65	79	61	94.5	73	81.5	57	76	63
26	68	57	54	38	28	14.5	39	23	41	27.5	40	30.5	55	(*)	83	63	81	61	91.5	74	85	70	76	62
27	67	54	47	34	26	13.5	39	32	40	30	41	23	61	43	80	63.5	85	60	89	73	76	68	75	58
28	57	48	41	29	28	13	39.5	23.5	36	23.5	52	28	60	42	89	69.5	85	71	87	70	74	62	76	64
29	54	31	38	20	37	21.5	25.5	5.5	......	......	56	29	51	46	84.5	69.5	85	71	89	70	71	64	81	64
30	52.5	38	27.5	17	38	26	24	4	......	......	61	41	64	47	84	57.5	86.5	73	91	72	80	67	73	53
31	54	38	......	......	45	31	38.5	8	......	......	59	20	......	......	69	50.5	......	......	90	71	88	67	......	......
Range	42°		46°.5		46°.5		62°		60°		63°		30°.5		45°		46°		34°.5		33°		53°	
Monthly means	58°.3		43°.6		32°.2		34°		35°.5		40°.3		51°.9		62°.3		73°.9		79°.4		76°.3		68°.0	

* Minimum thermometer broken.

Maximum, minimum, and mean temperatures—Continued.

BOSTON, MASS.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	65	56	49	42	32	19	30	11	34	20	43	31	55	36	73	46	79	47	80	62	89.5	68	83	64
2	62	48	56	41	47	29	29	5	14	3	41	22	43	37	58	40	73	55	92	67	90	70	75	61
3	57	48	43	38	42	35	41	28	39	8.5	29	22	50	37	40	34	58	50	91	72	96	71	74	56
4	61	45	46	35	38	30	42	27	52	34	26	15	53	37	61	34	70.5	49	92	70	83	66	80	60
5	60	43	55	32	37	36	37	21	41	28	32	12	43	35	69	43	69	52	90	69	75	60	89	66
6	75	55	54	41	42	29	41	22	45	25	40	13	44	39	65	42	73	50	83.5	61	84	57	71	56
7	74	60	52	43	37	26	30	12	39	33	50	21	44	38	58	42	68	52	75	55	85	65	63	54
8	64	54	51	40	44	29	37	9	46	33	51.5	32	63	42	58	41	65	52	75	59	88	67	70	57
9	64	49	53	40	39	20	37	23	33	6.5	42	29	45	38	48	43	71	50	76	61	82	64	70	49
10	73	47	51	35	24	8	28	13	15	3	34	25	57	38	58	43	76	53	76	60	80	61	66	49
11	53	40	52	33	27	14	14	2	31	10	45	24	60	39	51.5	46	82	61	71	57	73	59	68	54
12	53	35	62	45	19	8	20	8	37	26	45	31	42	35	68	47	76	59	80	57	73	61	82	54
13	53	41	52	41	35	8	41	13	24	14	41	25	37	35	75	47	68	53	85	57	70	59	82	54
14	60	40	49	42	40	22	47	26	27	12	46	31	45	34	60	41	67	52.5	95	61	63	61	59	46
15	58	38	42	34	45	24	26	21	34	16	42	31	50	39	62	43	82	54	96	72	69	59.5	60	43
16	63	43	47	30	33	17	51	21	34	22	45	39	50	40	64	43	89.5	69	79	65	85	62	72	48
17	54	42	41	29	39	23	52	36	43	30	32	23	45	39	60	49	83	63	69	57	79	64	68	50
18	58	47	44	28	30	20	37	29	38	25	44	26	50	37	62	48	83	56	60	56	70	62	74	50.5
19	57	44	45	29	35	24	33	18	47	29	48	36	56	37	67	43	93	59	64	56	79	62	74	60
20	51	36	45	29	39	28	33	16	35	24	37.5	33	58	39	62	43	89	70	79	57	74	62.5	65	48
21	67	42	41	23	33	28	44	33	33	19	42	33	47	37	65	44	77	61	81	59	69.5	61	65	43
22	73	48	47	28	29	4	40	28	23	14	41	20	53	35	65	44	73	55	85	58	70	62	63	42.5
23	71	48	48	32	27	2	27	21	18	4	44	28	56	38	80	56	76	53	88	63	86	60	63.5	49
24	53	46	48	32	15	2	31	12	14	— 4	29.5	22	57	38	87	59	75	54	88	72	68	50	67	56
25	53	43	58	39	7	—8	25	13	36	13	30.5	20	54	36	76	58	78	54	88	68	76	54	63	49
26	54	47	43	33	13	—2	25	12	37	25	34	26	52	39	85	56	90	58	94	71	70	56	77	55
27	57	45	44	29	12	3	27	21	40	22	36	16	59	39	84	54.5	88	59	83	72	72	52.5	83	54.5
28	48	39	39	25	20	—2.5	30	19	39	30	51	24	66	40	89	57	91	66	81	67	78	55	90	63
29	49	35	45	21	29	9	10	3	......	......	60	35	59	46	85	65	87	68	87	69	82	61	80	64
30	50	35	27	15	20	3	24	—5	......	......	44	29	61	43	71	51	87	68	93	63	87	61	72	46
31	48	38	......	......	20	7	35	17	......	......	49.5	35	......	......	61	45	......	......	82	69	84	66	......	......
Range	40°		47°		55°		57°		56°		48°		32°		55°		46°		41°		46°		47°.5	
Monthly means	52°.1		40°.7		24°.1		26°.3		27°.5		34°.2		44°.6		56°.8		67°.2		72°.9		68°.8		61°.7	

Maximum, minimum, and mean temperatures—Continued.

BRECKENRIDGE, MINN.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max,	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	75	40	35	31	20	18	25	5	-7	-25	3	-3	40	32	60	38	63	54	77	48	70	61	71	44
2	76	37	37	31	32	16	26	16	20	-18	-6	-21	38	30	63	38	81	58	81	55	71	45	73	49
3	73	40	43	33	17	6	5	-10	15	-8	1	-32	37	28	70	39	79	60	84	56	78	45	76	56
4	66	50	41	35	17	6	1	-13	3	-5	24	-11	39	34	70	43	83	51	73	61	86	58	60	45
5	59	37	40	33	25	8	7	-23	24	-6	32	10	37	33	67	50	86	56	69	44	88	65	54	39
6	56	26	47	26	24	11	34	-4	38	10	43	25	34	30	62	49	91	62	78	53	82	65	60	42
7	70	36	42	35	37	17	25	-5	27	14	21	9	30	27	57	49	87	62	74	56	85	57	60	37
8	62	43	43	24	-2	-5	-14	-18	14	-3	31	0	35	24	38	34	62	55	69	44	86	61	65	42
9	38	25	51	37	4	-17	-10	-23	29	-1	36	6	37	23	40	32	69	47	72	56	80	63	74	47
10	40	13	28	25	13	3	10	-24	22	7	33	18	36	32	56	30	73	51	72	45	79	53	80	50
11	57	19	27	12	12	7	21	3	10	-2	12	0	37	26	51	39	76	50	81	44	80	63	79	55
12	56	32	27	16	30	4	24	13	20	-4	30	-9	54	34	53	37	85	62	90	62	82	56	51	39
13	42	17	20	11	17	15	9	4	22	11	31	12	56	38	43	29	75	58	78	58	78	63	56	23
14	69	15	20	14	1	-1	26	9	23	4	37	17	37	26	57	32	86	49	79	58	76	65	68	41
15	49	29	23	16	11	-16	-5	-12	43	21	31	25	26	22	62	37	82	48	88	60	70	54	62	44
16	57	13	25	18	13	-20	-15	-26	39	19	33	6	34	20	69	40	85	48	97	74	76	46	64	26
17	60	30	11	7	-10	-20	9	-19	39	26	38	15	44	24	68	45	90	64	70	54	72	53	67	49
18	69	18	26	-2	-10	-30	13	-1	9	0	37	20	41	27	52	48	92	58	71	54	84	56	51	30
19	81	35	9	1	-8	-25	33	9	30	-8	5	0	49	28	52	45	78	52	77	45	80	53	53	19
20	69	34	28	-5	-16	-31	28	21	-12	-24	14	-7	36	29	62	43	83	43	86	47	89	61	62	28
21	51	31	31	15	..	-33	21	15	-9	-25	22	-3	33	26	69	51	85	64	91	47	69	48	53	35
22	51	13.5	36	25	-9	-13	7	-7	-5	-30	38	5	33	24	70	53	78	66	83	65	73	50	57	29
23	69	25	29	14	-23	-35	-10	-18	0	-16	12	-8	32	26	62	52	77	62	87	51	76	60	62	27
24	71	35	19	16	-15	-35	-10	-30	15	-12	10	-1	35	25	69	48	84	49	85	70	76	50	56	48
25	68	36	23	10	-5	-15	5	-15	33	7	2	-9	50	30	74	54	90	62	78	55	74	53	51	42
26	69	31	11	4	-22	-27	-7	-18	21	8	22	-15	48	32	67	51	94	72	79	46	78	56	56	46
27	70	41	-2	-17	-12	-34	-11	-29	14	-6	32	10	60	35	69	53	78	61	71	57	77	60	48	34
28	53	49	-6	-18	11	-13	4	-39	11	1	31	23	50	36	70	47	75	56	81	52	76	65	46	37
29	50	45	12	-18	19	5	28	-10	......	......	32	20	57	32	62	49	75	57	82	53	80	45	50	24
30	45	40	35	2	12	5	6	-10	......	......	32	27	59	38	68	34	71	52	78	59	77	54	47	30
31	33	34	......	......	10	-12	-17	-24	......	......	35	17	......	......	70	41	......	......	78	58	73	61	......	......
Range	68°		69°		72°		73°		73°		75°		40°		45°		51°		53°		44°		61°	
Monthly means	45°		21°		0°.4		2°.3		8°.6		16°.4		35°		52°		69°.5		67°.6		67°.0		49°.1	

Maximum, minimum, and mean temperatures—Continued.

CAIRO, ILL.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	73	49	63	43	50.5	30	38	33	33	18	38	32	67	51	73	59	84	61	88	69	83	72	93	73
2	78	51	60	48	58	44	56	36	33	10	36	30	65	42	64	52	85	61	88	73	88	71	87	72
3	86	58	55	38	49	34	46	31	59	32	30	11	78	54	56	49	86	61	92	77	80	67	77	71
4	88	61	68	46	49	26	37	27	62	47	30	10	82	63	67	44	86	62	93	75	80	68	86	71
5	84	62	62	44	52	39	32	24	55	35	49	24	86	70	74	51	81	69	94	73	83	60	85	70
6	67	57	55	39	50	31	32	25	54	35	64	40	86	69	65	61	89	68	87	74	90	64	80	63
7	71	50	67	32	57	37	40	22	62	28	57	47	74	50	67	59	86	67	88	69	85	72	77	61
8	72	48	60.5	43	53	36	39	23	49	34	64	41	50	42	75	57	88	71	80	66	86	71	78	54
9	76	49	63	44	36	17	29	15	47	28	65	44	50	35	65	60	85	72	84	66	91	73	81	56
10	61	46	58	43	26	13	23	6	49	36	69	37	68	42	68	52	80	71	84	68	93	73	86	56
11	60	38	55	46	33	20	50	22	45	39	65	38	61	48	74	50	81	68	83	65	95	75	88	68
12	66	37	52.5	36	34	24	56	41	39	28	46	31	61	39	86	56	84	66	88	67	90	76	86	68
13	64	47	56	38	48	25	63	51	35	28	59	35	69	43	74	63	88	70	91	72	89	71	64	58
14	54	37	38	27	51	32	60	45	45	27	72	41.5	72	36	68	60	84	68	92	75	86	68	69	51
15	68	37	31	25	42	21	59	49	48	36	67	47	52	41	67	61	91	69	96	74	87	67	76	50
16	74	56	31	22	30	24	51	17	49	40	55	39	48	37	78	55	83	72	94	72	75	71	82	50
17	76	57	35	15	33.5	19	17	4	46	39	64	40	48	37	75	59	84	71	92	75	81	68	87	49
18	69	48	38	23	35	28	17	5	65	43	60	47	53	43	73	56	84	70	88	74	86	61	85	61
19	71	42	47	29	32	24	31	8	57	35	68	38.5	72	42	86	64	85	72	77	66	86	61	70	55
20	75	47	34	18	31	15	48	31	55	37	55	33	75	46	78	64	90	72	80	62	87	60	69	49
21	71	50	44	25	19	2	46	37	39	21	49	39	71	44	81	63	88	71	86	68	89	60	75	50
22	62	50	47	34	25	— 5	39	36	24	16	57	33.5	84	61	81	63	90	72	86	64	89	69	62	51
23	62	47	58	36	22	1	38	21	25	14	58	51	48	42	90	66	91	75	90	68	90	69	71	50
24	63	41	63	46	6	— 7	26	15	29	11	65	52	52	39	85	65	94	74	86	72	92	75	68	51
25	63	52	62	37.5	19	— 1	28	15	42	24	55	25	49	39	78	65	91	77	91	72	93	78	76	57
26	69	46	49.5	33	18	10	28	22	55	37	37	19	59	38	80	67	92	71	83	73	95	74	87	60
27	71	41	35	25	23	7	27	11	40	24	52	29.5	62	45	79	65	89	71	77	72	95	70	83	66
28	71	39	41	16	28	14	21	— 1	40	24	56	45	65	49	76	65	88	69	84	70	89	68	78	69
29	68	49	21	7	37	19	17	— 8	......	......	63	43	72	48	83	64	88	73	90	71	89	67	64	60
30	65	46	35	16	48	32	35	6	......	......	69	46	60	49	86	64	84	69	85	69	93	67	70	47
31	64	41	......	......	50	34	45	17	......	......	67	39	......	......	80	61	......	......	82	70	95	70	......	......
Range	51°		61°		65°		71°		55°		62°		51°		46°		33°		34°		35°		46°	
Monthly means	57°.6		40°.7		29°.2		30°.3		38°.4		46°.5		55°.4		66°.7		77°.5		78°.7		78°.2		68°.9	

CHEYENNE, WYO.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	......	......	45	28	49	27	40	13	29	−1	34	10	52	19	43	25	72	41	74	48	79	50	77	53
2	......	......	57	28	42	21	30	10	50	5	40	7	58	39	59	25	76	49	82	48	79	53	81	55
3	......	......	48	30	56	21	29	3	39	23	45	15	67	38	58	32	72	42	86	50	90	57	73	53
4	......	......	43	22	43	32	19	12	32	10	54	26	36	24	56	36	74	41	90	55	88	54	72	46
5	......	......	40	14	44	23	39	10	36	12	60	28	28	19	62	34	85	44	92	62	85	62	72	40
6	......	......	56	18	45	21	40	25	48	23	55	30	24	5	53	36	85	52	90	51	86	55	61	48
7	......	......	59	18	55	18	39	11	31	14	41	19	23	3	(†)	(†)	73	52	81	53	83	57	65	44
8	......	......	69	26	46	19	26	−2	41	9	50	29	32	8	(†)	(†)	59	49	86	53	84	56	76	47
9	......	......	40	21	50	19	30	10	52	18	52	23	41	25	(†)	(†)	61	46	82	54	84	54	79	45
10	......	......	29	14	28	11	46	22	36	20	48	38	42	21	(†)	(†)	73	45	77	56	85	54	83	45
11	......	......	33	16	29	3	55	32	45	15	60	34	60	31	(†)	(†)	78	50	85	58	87	55	76	55
12	......	......	43	4	43	12	46	29	33	21	65	45	65	29	(†)	(†)	78	50	88	55	90	54	70	43
13	......	......	13	−4	51	12	44	26	45	18	65	41	45	16	(†)	(†)	81	40	90	50	83	60	73	40
14	......	......	6	−7	39	8	28	13	29	16	61	34	27	15	(†)	(†)	81	49	90	60	77	56	82	50
15	......	......	18	7	29	7	28	8	46	16	51	23	35	22	(†)	(†)	82	48	94	60	66	49	82	47
16	......	......	36	4	30	6	37	18	51	26	60	23	40	28	45	37	86	50	85	62	76	48	80	41
17	......	......	25	1	23	0	43	29	40	10	45	32	55	22	59	36	87	50	81	52	79	48	81	51
18	......	......	46	22	20	−2	46	28	28	9	55	22	59	34	60	37	92	51	81	43	85	47	59	32
19	......	......	41	23	15	−11	49	32	37	0	47	29	65	33	65	41	81	50	86	45	85	51	69	41
20	*71	23	43	18	2	−4	44	29	29	3	57	23	69	29	62	39	90	52	93	53	80	59	67	39
21	51	25	32	16	29	−14	42	16	29	7	62	27	72	46	56	41	87	60	89	63	79	49	66	33
22	57	14	49	21	37	1	23	12	19	3	64	26	42	13	61	35	87	58	68	62	85	60	65	49
23	61	19	44	28	4	−7	27	14	33	13	59	25	25	11	62	40	76	39	88	61	81	58	74	28
24	62	26	31	0	47	0	26	12	35	16	28	10	32.5	5	70	39	90	56	80	60	81	49	56	29
25	63	31	29	2	47	28	30	3	39	2	41	3	42	18	62	46	91	52	72	55	80	48	82	39
26	61	33	30	9	32	13	37	16	20	−8	57	27	55	23	65	38	94	52	80	45	88	52	64	31
27	61	23	43	8	44	17	−8	−17	40	6	46	26	52	32	74	46	84	53	74	47	90	53	62	32
28	45	22	51	28	43	24	24	−17	38	16	48	23	60	28	81	45	84	49	77	48	80	60	50	28
29	34	13	60	20	51	24	41	8	......	......	60	32	46	25	64	43	85	46	79	45	86	50	66	30
30	47	24	56	37	22	2	44	16	......	......	50	20	28	20	76	43	69	49	77	53	83	54	62	31
31	48	27	......	......	26	2	12	−5	......	......	45	21	......	......	65	40	......	......	85	49	81	56	......	......
Range	....		76°		70		72		60		62		69°		56°		55°		50°		43°		55°	
Monthly means	45°.2		28°.2		23°.4		24°.6		25°		39°.7		34°.4		49°.2		69°.5		69°.7		69°.2		55°.9	

* Station supplied with a self-registering maximum and minimum thermometer, October 20, 1872. † Observer sick. No observation taken.

Maximum, minimum, and mean temperatures—Continued.

CAIRO, ILL.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	73	49	63	43	50.5	30	38	33	33	18	38	32	67	51	73	59	84	61	88	60	83	72	93	73
2	78	51	60	48	58	44	56	36	33	10	36	30	65	42	64	52	85	61	88	73	88	71	87	72
3	86	58	55	38	49	34	46	31	59	32	30	11	78	54	56	40	86	61	92	77	80	67	77	71
4	88	61	68	46	49	26	37	27	62	47	30	10	82	63	67	44	86	62	93	75	80	68	86	71
5	84	62	62	44	52	39	32	24	55	35	49	24	86	70	74	51	81	69	94	73	83	60	85	70
6	67	57	55	39	50	31	32	25	54	35	64	40	86	69	65	61	89	68	87	74	90	64	80	63
7	71	50	67	32	57	37	40	22	62	28	57	47	74	50	67	59	86	67	88	69	85	72	77	61
8	72	48	60.5	43	53	36	30	23	49	34	64	41	50	42	75	57	88	71	80	66	86	71	78	54
9	76	49	63	44	36	17	29	15	47	28	65	44	50	35	65	60	85	72	84	66	91	73	81	56
10	61	46	58	43	26	13	23	6	49	36	69	37	68	42	68	52	80	71	84	68	93	73	86	56
11	60	38	55	46	33	20	50	22	45	30	63	38	61	48	74	50	81	68	83	65	95	75	88	68
12	66	37	52.5	36	34	24	56	41	30	28	46	31	61	39	86	56	84	66	88	67	90	76	86	68
13	64	47	56	38	48	25	63	51	35	28	59	35	69	43	74	63	88	70	91	72	89	71	64	58
14	54	37	38	27	51	32	60	45	45	27	72	41.5	72	36	68	60	84	68	92	75	86	68	69	51
15	68	37	31	25	42	21	59	49	48	36	67	47	52	41	67	61	91	69	96	74	87	67	76	50
16	74	56	31	28	30	24	51	17	49	40	55	39	48	37	78	55	83	72	94	72	75	71	82	50
17	76	57	35	15	33.5	19	17	4	46	30	64	40	48	37	75	59	84	71	92	75	81	68	87	49
18	69	48	38	23	35	28	17	5	65	43	60	47	53	43	73	56	84	70	88	74	86	61	85	61
19	71	42	47	29	32	24	31	8	57	35	68	38.5	72	42	86	64	85	72	77	66	86	61	70	55
20	75	47	34	18	31	15	48	31	55	37	55	33	75	46	78	64	90	72	80	62	87	60	69	49
21	71	50	44	25	19	2	46	37	39	21	49	39	71	44	81	63	88	71	86	68	89	60	75	50
22	62	50	47	34	25	– 5	39	36	24	16	57	33.5	84	61	81	63	90	72	86	64	89	69	62	51
23	62	47	58	36	22	1	38	21	25	14	58	51	48	42	90	66	91	75	90	68	90	69	71	50
24	63	41	63	46	6	– 7	26	15	29	11	65	52	52	39	85	65	94	74	86	72	92	75	68	51
25	63	52	62	37.5	19	– 1	28	15	42	24	55	25	49	39	78	65	91	77	91	72	93	78	76	57
26	69	46	49.5	33	18	10	28	22	55	37	37	19	59	36	80	67	92	71	83	73	95	74	87	60
27	71	41	35	25	23	7	27	11	40	24	52	29.5	62	45	79	65	89	71	77	72	95	70	83	66
28	71	39	41	16	28	14	21	– 1	40	24	56	45	65	49	76	65	88	69	84	70	89	68	78	69
29	68	40	21	7	37	19	17	– 8	......	......	63	43	72	48	83	64	88	73	90	71	89	67	64	60
30	65	46	35	16	48	32	35	6	......	......	69	46	60	49	86	64	84	69	85	69	93	67	70	47
31	64	41	......	......	50	34	45	17	......	......	67	39	......	......	80	61	......	......	82	70	95	70	......	......
Range	51°		61°		65°		71°		55°		62°		51°		46°		33°		34°		35°		40°	
Monthly means	57°.6		40°.7		29°.2		30°.3		38°.4		46°.5		55°.4		66°.7		77°.5		78°.7		78°.2		68°.9	

CHEYENNE, WYO.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	......	......	45	28	49	27	40	13	29	− 1	34	10	52	19	43	25	72	41	74	48	79	50	77	53
2	......	......	57	28	42	21	30	10	50	5	40	7	58	39	59	25	76	49	82	48	79	53	81	55
3	......	......	48	30	56	21	29	3	39	23	45	15	67	38	58	32	72	42	86	50	90	57	73	53
4	......	......	43	22	43	32	19	12	32	10	54	26	36	24	56	36	74	41	90	55	88	54	72	46
5	......	......	40	14	44	23	39	10	36	12	60	28	28	19	62	34	85	44	92	62	85	62	72	40
6	......	......	56	18	45	21	40	25	48	23	55	30	24	5	53	36	85	52	90	51	86	55	61	48
7	......	......	59	18	55	18	39	11	31	14	41	19	23	3	(†)	(†)	73	52	81	53	83	57	65	44
8	......	......	69	26	46	19	26	− 2	41	9	50	29	32	8	(†)	(†)	59	49	86	53	84	56	76	47
9	......	......	40	21	50	19	30	10	52	18	52	23	41	25	(†)	(†)	61	46	82	54	84	54	79	45
10	......	......	29	14	28	11	46	22	36	20	48	38	42	21	(†)	(†)	73	45	77	56	85	54	83	45
11	......	......	33	16	29	3	55	32	45	15	60	34	60	31	(†)	(†)	78	50	85	58	87	55	76	55
12	......	......	43	4	43	12	46	29	33	21	65	45	65	29	(†)	(†)	78	50	88	55	90	54	70	45
13	......	......	13	− 4	51	12	44	26	45	18	65	41	45	16	(†)	(†)	81	40	90	50	83	60	73	40
14	......	......	6	− 7	39	8	28	13	29	16	61	34	27	15	(†)	(†)	81	49	90	60	77	56	82	50
15	......	......	18	7	20	7	28	8	46	16	51	23	35	22	(†)	(†)	82	48	94	60	66	49	82	47
16	......	......	36	4	30	6	37	18	51	26	60	23	40	28	45	37	86	50	85	62	76	48	80	41
17	......	......	25	1	23	0	43	29	40	10	45	32	55	22	59	36	87	50	81	52	79	48	81	51
18	......	......	46	22	20	− 2	46	28	28	9	55	22	59	34	60	37	92	51	81	43	85	47	59	32
19	......	......	41	28	15	−11	49	32	37	0	47	29	65	33	65	41	81	50	86	45	85	51	69	41
20	*71	23	43	18	2	− 4	44	29	29	3	57	23	69	20	62	39	90	52	93	53	80	59	67	39
21	51	25	32	16	29	−14	42	16	29	7	62	27	72	46	56	41	87	60	89	63	79	49	66	33
22	57	14	49	21	37	1	23	12	19	3	64	26	42	13	61	35	87	58	68	62	85	60	65	49
23	61	19	44	28	4	− 7	27	14	33	13	59	25	25	11	62	40	76	39	88	61	81	58	74	28
24	62	26	31	0	47	0	26	12	35	16	28	10	32.5	5	70	39	90	56	80	60	81	49	56	29
25	63	31	20	2	47	28	30	3	30	2	41	3	42	18	62	46	91	52	72	55	80	48	82	39
26	61	33	30	9	32	13	37	16	20	− 8	57	27	55	23	65	38	94	52	80	45	88	52	64	31
27	61	23	43	8	44	17	− 8	−17	40	6	46	26	52	32	74	46	84	53	74	47	90	53	62	32
28	45	22	51	28	43	24	24	−17	38	16	48	23	60	28	81	45	84	49	77	48	80	60	50	28
29	34	13	60	20	51	24	41	8	......	......	60	32	46	25	64	43	85	46	79	45	86	50	66	30
30	47	24	56	37	22	2	44	16	......	......	50	20	28	20	76	43	69	49	77	53	83	54	62	31
31	48	27	......	......	26	2	12	− 5	......	......	45	21	......	......	65	40	......	......	85	49	81	56	......	......
Range	....		76°		70		72		60		62		69°		56°		55°		50°		43°		55°	
Monthly means	45°.2		28°.2		23°.4		24°.6		25°		39°.7		34°.4		49°.2		69°.5		69°.7		69°.2		55°.9	

* Station supplied with a self-registering maximum and minimum thermometer, October 20, 1872.

† Observer sick. No observation taken.

Maximum, minimum, and mean temperatures—Continued.

CAIRO, ILL.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	73	49	63	43	50.5	30	38	33	33	18	38	32	67	51	73	59	84	61	88	69	83	72	93	73
2	78	51	60	48	58	44	56	36	33	10	36	30	65	42	64	52	85	61	88	73	88	71	87	72
3	86	58	55	38	49	34	46	31	59	32	30	11	78	54	56	49	86	61	92	77	80	67	77	71
4	88	61	68	46	49	26	37	27	62	47	30	10	82	63	67	44	86	62	93	75	80	68	86	71
5	84	62	62	44	52	39	32	24	55	35	49	24	86	70	74	51	81	69	94	73	83	60	85	70
6	67	57	55	39	50	31	32	25	54	35	64	40	86	69	65	61	89	68	87	74	90	64	80	63
7	71	50	67	32	57	37	40	22	62	28	57	47	74	50	67	59	86	67	88	69	85	72	77	61
8	72	48	60.5	43	53	36	39	23	49	34	64	41	50	42	75	57	88	71	80	66	86	71	78	54
9	76	49	63	44	36	17	29	15	47	28	65	44	50	35	65	60	85	72	84	66	91	73	81	56
10	61	46	58	43	26	13	23	6	49	36	69	37	68	42	68	52	80	71	84	68	93	73	86	56
11	60	38	55	46	33	20	50	22	45	39	63	38	61	48	74	50	81	68	83	65	95	75	88	68
12	66	37	52.5	38	34	24	56	41	39	28	46	31	61	39	86	56	84	66	88	67	90	76	86	68
13	64	47	56	38	48	25	63	51	35	28	59	35	69	43	74	63	88	70	91	72	89	71	64	58
14	54	37	38	27	51	32	60	45	45	27	72	41.5	72	36	68	60	84	68	92	75	86	68	69	51
15	68	37	31	25	42	21	59	49	48	36	67	47	52	41	67	61	91	69	96	74	87	67	76	50
16	74	56	31	22	30	24	51	17	49	40	55	39	48	37	78	55	83	72	94	72	75	71	82	50
17	76	57	35	15	33.5	19	17	4	46	39	64	40	48	37	75	59	84	71	92	75	81	68	87	49
18	69	48	38	23	35	28	17	5	65	43	60	47	53	43	73	56	84	70	88	74	86	61	85	61
19	71	42	47	20	32	24	31	8	57	35	68	38.5	72	42	86	64	85	72	77	66	86	61	70	55
20	75	47	34	18	31	15	48	31	55	37	55	33	75	46	78	64	90	72	80	62	87	60	69	49
21	71	50	44	25	19	2	46	37	39	21	49	39	71	44	81	63	88	71	86	68	89	60	75	50
22	62	50	47	34	25	− 5	39	36	24	16	57	33.5	84	61	81	63	90	72	86	64	89	69	62	51
23	62	47	58	36	22	1	38	21	25	14	58	51	48	42	90	66	91	75	90	68	90	69	71	50
24	63	41	63	46	6	− 7	26	15	29	11	65	52	52	39	85	65	94	74	86	72	92	75	68	51
25	63	52	62	37.5	19	− 1	28	15	42	24	55	25	49	39	78	65	91	77	91	72	93	78	76	57
26	69	46	49.5	33	18	10	28	22	55	37	37	19	59	36	80	67	92	71	83	73	95	74	87	60
27	71	41	35	25	23	7	27	11	40	24	52	29.5	62	45	79	65	89	71	77	72	95	70	83	66
28	71	39	41	16	28	14	21	− 1	40	24	56	45	65	49	76	65	88	69	84	70	89	68	78	69
29	68	40	21	7	37	19	17	− 8	......	......	63	43	72	48	83	64	88	73	90	71	89	67	64	60
30	65	46	35	16	48	32	35	6	......	......	69	46	60	49	86	64	84	69	85	69	93	67	70	47
31	64	41	......	......	50	34	45	17	......	......	67	39	......	......	80	61	......	......	82	70	95	70	......	......
Range	51°		61°		65°		71°		55°		62°		51°		46°		33°		34°		35°		46°	
Monthly means	57°.6		40°.7		29°.2		30°.3		38°.4		46°.5		55°.4		66°.7		77°.5		78°.7		78°.2		68°.9	

CHEYENNE, WYO.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	......	......	45	28	49	27	40	13	29	— 1	34	10	52	19	43	25	72	41	74	48	79	50	77	53
2	......	......	57	28	42	21	30	10	50	5	40	7	58	39	59	25	76	49	82	48	79	53	81	55
3	......	......	48	30	56	21	29	3	39	23	45	15	67	38	58	32	72	42	86	50	90	57	73	53
4	......	......	43	22	43	32	19	12	32	10	54	26	36	24	56	36	74	41	90	55	88	54	72	46
5	......	......	40	14	44	23	39	10	36	12	60	28	28	19	62	34	85	44	92	62	85	62	72	40
6	......	......	56	18	45	21	40	25	48	23	55	30	24	5	53	36	85	52	90	51	86	55	61	48
7	......	......	59	18	55	18	39	11	31	14	41	19	23	3	(†)	(†)	73	52	81	53	83	57	65	44
8	......	......	69	26	46	19	26	— 2	41	9	50	29	32	8	(†)	(†)	59	49	86	53	84	56	76	47
9	......	......	40	21	50	19	30	10	52	18	52	23	41	25	(†)	(†)	61	46	82	54	84	54	79	45
10	......	......	29	14	28	11	46	22	36	20	48	38	42	21	(†)	(†)	73	45	77	56	85	54	83	45
11	......	......	33	16	29	3	55	32	45	15	60	34	60	31	(†)	(†)	78	50	85	58	87	55	76	55
12	......	......	43	4	43	12	46	29	33	21	65	45	65	29	(†)	(†)	78	50	88	55	90	54	70	45
13	......	......	13	— 4	51	12	44	26	45	18	65	41	45	16	(†)	(†)	81	40	90	50	83	60	73	40
14	......	......	6	— 7	39	8	28	13	29	16	61	34	27	15	(†)	(†)	81	49	90	60	77	56	82	50
15	......	......	18	7	29	7	28	8	46	16	51	23	35	22	(†)	(†)	82	48	94	60	66	49	82	47
16	......	......	36	4	30	6	37	18	51	26	60	23	40	28	45	37	86	50	85	62	76	48	80	41
17	......	......	25	1	23	0	43	29	40	10	45	32	55	22	59	36	87	50	81	52	79	48	81	51
18	......	......	46	22	20	— 2	46	28	28	9	55	22	59	34	60	37	92	51	81	43	85	47	59	32
19	......	......	41	28	15	—11	49	32	37	0	47	29	65	33	65	41	81	50	86	45	85	51	69	41
20	*71	23	43	18	2	— 4	44	29	29	3	57	23	69	29	62	39	90	52	93	53	80	59	67	39
21	51	25	32	16	29	—14	42	16	29	7	62	27	72	46	56	41	87	60	89	63	79	49	66	33
22	57	14	49	21	37	1	23	12	19	3	64	26	42	13	61	35	87	58	68	62	85	60	65	49
23	61	19	44	28	4	— 7	27	14	33	13	59	25	25	11	62	40	76	39	88	61	81	58	74	28
24	62	26	31	0	47	0	26	12	35	16	28	10	32.5	5	70	39	90	56	80	60	81	49	56	29
25	63	31	29	2	47	28	30	3	39	2	41	3	42	18	62	46	91	52	72	55	80	48	82	39
26	61	33	30	9	32	13	37	16	20	— 8	57	27	55	23	65	38	94	52	80	45	88	52	64	31
27	61	23	43	8	44	17	— 8	—17	40	6	46	26	52	32	74	46	84	53	74	47	90	53	62	32
28	45	22	51	28	43	24	24	—17	38	16	48	23	60	28	81	45	84	49	77	48	80	60	50	28
29	34	13	60	20	51	24	41	8	......	......	60	32	46	25	64	43	85	46	79	45	86	50	66	30
30	47	24	56	37	22	2	44	16	......	......	50	20	28	20	76	43	69	49	77	53	83	54	62	31
31	48	27	......	......	26	2	12	— 5	......	......	45	21	......	......	65	40	......	......	85	49	81	56	......	......
Range	....		76°		70		72		60		62		69°		56°		55°		50°		43°		55°	
Monthly means	45°.2		28°.2		23°.4		24°.6		25°		39°.7		34°.4		49°.2		69°.5		69°.7		69°.2		55°.9	

* Station supplied with a self-registering maximum and minimum thermometer, October 20, 1872. † Observer sick. No observation taken.

Maximum, minimum, and mean temperatures—Continued.

CHICAGO, ILL.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	56	42	52	33	33	17	30	19	20	0	34	10	43	29	50	38	62	44	78	61	87	64	79	68
2	70	48	49	39	38	26	44	26	19	−12	35	11	46	29	58	36	83	49	71	60	80	63	75	60
3	65	52	46	34	36	20	34	12	40	10	8	− 6	51	33	49	38	89	63	76	60	68	53	80	67
4	81	52	48	36	34	12	(*)	......	42	23	23	−12	77	40	69	36	73	49	78	61	70	55	80	66
5	67	55	48	42	35	21	26	12	40	11	31	11	83	61	68	42	80	58	72	58	74	59	69	54
6	59	51	48	36	34	19	25	5	44	26	50	22	67	33	57	39	67	50	63	52	83	60	62	57
7	62	45	53	37	42	18	36	18	48	29	53	35	55	35	57	39	70	50	72	56	87	66	68	54
8	73	47	44	32	40	16	35	5	34	11	(*)	......	40	28	55	43	72	56	......	......	75	65	67	55
9	69	47	49	33	16	6	7	− 8	46	8	41	29	45	32	55	40	81	61	68	51	74	63	72	59
10	48	31	59	40	22	4	10	− 7	41	20	54	29	56	32	57	42	72	54	68	52	79	60	80	60
11	51	28	53	37	27	16	(*)	......	46	20	39	22	56	31	57	39	80	50	65	53	77	66	88	64
12	55	35	52	32	29	16	45	6	38	15	36	21	41	31	74	43	69	45	......	......	79	65	74	59
13	46	34	46	27	36	23	46	15	40	12	54	31	53	32	63	36	85	60	83	64	72	64	59	46
14	44	27	28	19	46	22	42	29	39	14	60	34	57	41	49	36	75	54	88	69	72	67	62	42
15	63	33	27	19	26	7	51	33	38	21	(*)	......	58	37	45	36	79	53	84	64	77	61	75	42
16	48	42	30	17	26	14	35	2	38	25	45	26	58	34	51	38	(*)	......	93	66	69	58	67	51
17	63	38	33	14	32	6	35	−4	42	24	53	32	41	31	50	38	85	56	90	71	72	56	84	57
18	57	37	25	11	32	14	28	11	52	28	53	31	48	32	64	39	87	57	76	54	75	60	79	52
19	60	39	26	17	25	5	28	5	53	22	53	27	45	35	57	43	91	57	76	50	87	61	59	41
20	75	46	22	0	25	5	35	22	40	17	32	21	57	36	60	49	75	59	68	56	87	67	57	43
21	74	51	32	15	8	−12	34	23	40	−11	39	20	48	32	60	50	86	63	71	63	85	72	68	50
22	55	42	34	27	14	−21	33	23	24	−14	51	26	39	29	77	50	86	62	82	60	90	67	65	57
23	52	37	41	27	14	−18	25	18	12	−18	40	25	38	25	80	58	92	71	85	62	75	68	59	48
24	48	38	51	35	5	−23	20	13	22	−11	30	24	41	30	67	48	87	59	88	66	92	68	63	53
25	50	46	46	27	20	4	23	10	(*)	− 3	35	19	48	30	60	49	75	57	84	68	80	70	66	48
26	52	41	39	25	21	8	20	8	......	−20	29	7	57	34	87	45	79	60	74	63	73	64	85	58
27	55	39	32	3	19	0	20	3	......	12	38	17	55	36	78	58	85	66	78	60	72	59	86	61
28	53	40	19	0	21	2	16	− 5	......	13	49	30	51	36	82	54	78	61	81	64	73	65	75	67
29	60	48	14	− 2	28	15	18	−16	......	......	45	32	53	37	78	40	79	64	78	60	77	74	59	49
30	56	45	26	4	33	23	25	− 3	......	......	45	27	52	30	51	35	78	63	83	63	85	67	61	41
31	48	39	......	......	31	27	25	13	......	......	53	32	......	......	55	35	......	......	75	66	92	71	......	......
Range	54°		61°		69°		67°		71°		72°		58°		52°		48°		43°		39°		47°	
Monthly means	50°.8		32°.5		20°.3		20°.7		24°.6		34°.6		42°.3		53°.9		70°.2		71°.2		71°.7		62°.4	

Maximum, minimum, and mean temperatures—Continued.

CINCINNATI, OHIO.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	62	46.5	58	39	41	25	40	31.5	34	22	41	25	65	45	72	47	82	55	88	69	88	73	89	76
2	71.5	43	......	......	50	40	55	36	33	11	35	27	52	40	67	52	84	58	87	70	89	73	82	66
3	81	59	51	42.5	46	36	45	31	53	28	30	6	70	40	60	49	89	63	91	72	82	67	86	67
4	85	64	54	36	45	29	45	26	56.5	43	19	1	78	50	67	48	86	70	93	70	79	63	85	73
5	83	66	55.5	50	43.5	36	37	23	50	31	34	8.5	85	67	72	48	84	69	92	70	83	63	81	68
6	80.5	61	54.5	43	49	30	37	20	56	33	54	22	84	71	77	60	88	68	78	64	87	66	76	59
7	67.5	54	64	36	52	32	45	23	56	32	63.5	42.5	78	60	66	59	85	69	83	64	89	69	74	60
8	69	48	54	39	48	29	40	20	40	26	59.5	43	78	56	71	61	83	62	83	67	90	73	74	55
9	73	49	55	39	22	20	23	10	35	18	62	39	60	43	74.5	55	85	64	83	67	88	74	76	57
10	58	46	61	36	32	15	12	3	48	29	61	34	62	41	70	54	78	69	86	66	89	70	84	64
11	55	39	61	53	32	15	34	11	48	33	61	34.5	56	44	65	48	80	64	83	66	91	72	87	63
12	57	35.5	51	36	33	16	50	23	44	26	54	29.5	48	38	79	45	82	63	86	65	80	71	86	66
13	55	43	57	40	42	20	53	39	36	25.5	54	32	60	42	71	57	82	63	89	71	82	67	73	58
14	50	36	42	31	50	28	45	36	42	29	64	39	67.5	43	70	52	80	(*)	90	72	77	63	66	48
15	61	34	36	27.5	46	30	63	41	45	29	72	46	62	52	68	47	88	......	89	72	84	65	74	45
16	62.5	51.5	32	24.5	40	28	60	24	53	40	49	39	60	44	69	52	92	......	94	72	75	70	78	59
17	70	52.5	38	22	38	18	25	15	46	39	62	34	54	43	70	52	87	......	94	73	74	66	84	55
18	63	51	30.5	25	36	27	18	12	67	40	56	44	52	42	72	57	85	......	88	75	83	66	86	64
19	63	43	41	30.5	39	24	27	12	61	39	60.5	40	64	42	81	58	89	......	76	67	82	61	76	54
20	68	40	34	20	38	22	43	22	58	39	52	29	55	38	82	64	89	......	83	60	85	61	62	46
21	70.5	45.5	44	20	23	−1	47	33	54	18	38	28	59	40	78	65	91	66	81	62	86	64	69	47
22	64	52	38	35	22	−8	42	31	29	14	51	33	57	39	85	66	91	68	85	64	88	69	62	54
23	64	46	54	31.5	21	2	45	31	16	3	60	40	48.	35	88	68	95	73	88	65	90	69	60	53
24	59.5	41.5	57	36.5	15	1	37	16	20.5	2	50	38	50	36	89	70	94	74	90	65	92	72	69	50
25	62.5	50	56	39	27	−1	31	11	39	20	44	36	47	35	81	66	88	75	91	70	93	73	72	60
26	59.5	52	45.5	33	24	10	33	22	39	29	31	24	59	39	87	68	92	74	81	72	87	71	82	56
27	61.5	44	36	27	26	6	28	20	40	22	45	21	65	44	83	69	88	74	82	72	81	69	85	66
28	62	44	39.5	21	29	9	18	9	37	24	65	35	60	51	80	65	88	71	84	71	78	66	86	68
29	64.5	44	21	6	35	23	23.5	2	......	......	50	38	64	50	82	62	89	70	86	73	78	70	77	56
30	64	44	31	10	43	26	26	1	......	......	50	37	65	47	76	55	84	71	89	71	86	66	64	48
31	59	47	......	......	48	37	42	15	......	......	64	41	......	......	75	47	......	......	87	74	92	68	......	......
Range	51°		58°		60°		62°		65°		71°		50°		44°		40°		34°		32°		44°	
Monthly means	56°.9		40°.4		29°.5		31°.1		35°.9		41°.9		53°.9		66°.5		77°.8		77°.6		76°.3		67°.6	

*Minimum thermometer broken.

Maximum, minimum, and mean temperatures—Continued.

CHICAGO, ILL.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	56	42	52	33	33	17	30	19	20	0	34	10	43	29	50	38	62	44	78	61	87	64	79	68
2	70	48	49	39	38	26	44	26	19	−12	35	11	46	29	58	36	83	49	71	60	80	63	75	60
3	65	52	46	34	36	20	34	12	40	10	8	− 6	51	33	49	38	89	63	76	60	68	53	80	67
4	81	52	48	36	34	12	(*)	......	42	23	23	−12	77	40	69	36	73	49	78	61	70	55	80	66
5	67	55	48	42	35	21	26	12	40	11	31	11	83	61	68	42	80	58	72	58	74	59	69	54
6	59	51	48	36	34	19	25	5	44	26	50	22	67	33	57	39	67	50	63	52	83	60	62	57
7	62	45	53	37	42	18	36	18	48	29	53	35	55	35	57	39	70	50	72	56	87	66	68	54
8	73	47	44	32	40	16	35	5	34	11	(*)	......	40	28	55	43	72	56	......	......	75	65	67	55
9	69	47	49	33	16	6	7	− 8	46	8	41	29	45	32	55	40	81	61	68	51	74	63	72	59
10	48	31	59	40	22	4	10	− 7	41	20	54	29	56	32	57	42	72	54	68	52	79	60	80	60
11	51	28	53	37	27	16	(*)	......	46	20	39	22	56	31	57	39	80	50	65	53	77	66	88	64
12	55	35	52	32	29	16	45	6	38	15	36	21	41	31	74	43	69	45	......	......	79	65	74	59
13	46	34	46	27	36	23	46	15	40	12	54	31	53	32	63	36	85	60	83	64	72	64	59	46
14	44	27	28	10	46	22	42	29	39	14	60	34	57	41	49	36	75	54	88	69	72	67	62	42
15	63	33	27	19	26	7	51	33	38	21	(*)	......	58	37	45	36	79	53	84	64	77	61	75	42
16	48	42	30	17	26	14	35	2	38	25	45	26	58	34	51	38	(*)	......	93	66	69	58	67	51
17	63	38	33	14	32	6	35	−4	42	24	53	32	41	31	50	38	85	56	90	71	72	56	84	57
18	57	37	25	11	32	14	28	11	52	28	53	31	48	32	64	39	87	57	76	54	75	60	79	52
19	60	39	26	17	25	5	28	5	53	22	53	27	45	35	57	43	91	57	76	50	87	61	59	41
20	75	46	22	0	25	5	35	22	40	17	32	21	57	36	60	49	75	59	68	56	87	67	57	43
21	74	51	32	15	8	−12	34	23	40	−11	39	20	48	32	60	50	86	63	71	63	85	72	68	50
22	55	42	34	27	14	−21	33	23	24	−14	51	26	39	29	77	50	86	62	82	60	90	67	65	57
23	52	37	41	27	14	−18	25	18	12	−18	40	25	38	25	80	58	92	71	85	62	75	68	59	48
24	48	38	51	35	5	−23	20	13	22	−11	30	24	41	30	67	48	87	59	88	66	92	68	63	53
25	50	46	46	27	20	4	23	10	(*)	− 3	35	19	48	30	60	49	75	57	84	68	80	70	66	48
26	52	41	39	25	21	8	20	8	......	−20	29	7	57	34	87	45	79	60	74	63	73	64	85	58
27	55	39	32	3	19	0	20	3	......	12	38	17	55	36	78	58	85	66	78	60	72	59	86	61
28	53	40	19	0	21	2	16	− 5	......	13	49	30	51	36	82	54	78	61	81	64	73	65	75	67
29	60	48	14	− 2	28	15	18	−16	......	......	45	32	53	37	78	40	79	64	78	60	77	74	59	49
30	56	45	26	4	33	23	25	− 3	......	......	45	27	52	30	51	35	78	63	83	63	85	67	61	41
31	48	39	......	......	31	27	25	13	......	......	53	32	......	......	55	35	......	......	75	66	92	71	......	......
Range	54°		61°		69°		67°		71°		72°		58°		52°		48°		43°		39°		47°	
Monthly means	50°.8		32°.5		20°.3		20°.7		24°.6		34°.6		42°.3		53°.9		70°.2		71°.2		71°.7		62°.4	

Maximum, minimum, and mean temperatures—Continued.

CINCINNATI, OHIO.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	62	46.5	58	39	41	25	40	31.5	34	22	41	25	65	45	72	47	82	55	88	69	88	73	89	76
2	71.5	43	......	......	50	40	55	36	33	11	35	27	52	40	67	52	84	58	87	70	89	73	82	66
3	81	59	51	42.5	46	36	45	31	53	28	30	6	70	40	60	49	89	63	91	72	82	67	86	67
4	85	64	54	36	45	29	45	26	56.5	43	19	1	78	50	67	48	86	70	93	70	79	63	85	73
5	83	66	55.5	50	43.5	36	37	23	50	31	34	8.5	85	67	72	48	84	69	92	70	83	63	81	68
6	80.5	61	54.5	43	49	30	37	20	56	33	54	22	84	71	77	60	88	68	78	64	87	66	76	59
7	67.5	54	64	36	52	32	45	23	56	32	63.5	42.5	78	60	66	59	85	69	83	64	89	69	74	60
8	69	48	54	39	48	29	40	20	40	26	59.5	43	78	56	71	61	83	62	83	67	90	73	74	55
9	73	49	55	39	22	20	23	10	35	18	62	39	60	43	74.5	55	85	64	83	67	88	74	76	57
10	58	46	61	36	32	15	12	3	48	29	61	34	62	41	70	54	78	69	86	66	89	70	84	64
11	55	39	61	53	32	15	34	11	48	33	61	34.5	56	44	65	48	80	64	83	66	91	72	87	63
12	57	35.5	51	36	33	16	50	23	44	26	54	29.5	48	38	79	45	82	63	86	65	80	71	86	66
13	55	43	57	40	42	20	53	39	36	25.5	54	32	60	42	71	57	82	63	89	71	82	67	73	58
14	50	36	42	31	50	28	45	36	42	29	64	39	67.5	43	70	52	80	(*)	90	72	77	63	66	48
15	61	34	36	27.5	46	30	63	41	45	29	72	46	62	52	68	47	88	......	89	72	84	65	74	45
16	62.5	51.5	32	24.5	40	28	60	24	53	40	49	39	60	44	69	52	92	......	94	72	75	70	78	59
17	70	52.5	38	22	38	18	25	15	46	39	62	34	54	43	70	52	87	......	94	73	74	66	84	55
18	63	51	39.5	25	36	27	18	12	67	40	56	44	52	42	72	57	85	......	88	75	83	66	86	64
19	63	43	41	30.5	39	24	27	12	61	39	60.5	40	64	42	81	58	89	......	76	67	82	61	76	54
20	68	40	34	20	38	22	43	22	58	39	52	29	55	38	82	64	89	......	83	60	85	61	62	46
21	70.5	45.5	44	20	23	− 1	47	33	54	18	38	28	59	40	78	65	91	66	81	62	86	64	69	47
22	64	52	38	35	22	− 8	42	31	29	14	51	33	57	39	85	66	91	68	85	64	88	69	62	54
23	64	46	54	31.5	21	2	45	31	16	3	60	40	48.	35	88	68	95	73	88	65	90	69	60	53
24	59.5	41.5	57	36.5	15	1	37	16	29.5	2	50	38	50	36	89	70	94	74	90	65	92	72	69	50
25	62.5	50	56	39	27	− 1	31	11	39	20	44	36	47	35	81	66	88	75	91	70	93	73	72	60
26	59.5	52	45.5	33	24	10	33	22	39	29	31	24	59	39	87	68	92	74	81	72	87	71	82	56
27	61.5	44	36	27	26	6	28	20	40	22	45	21	65	44	83	69	88	74	82	72	81	69	85	66
28	62	44	39.5	21	29	9	18	9	37	24	65	35	60	51	80	65	88	71	84	71	78	66	86	68
29	64.5	44	21	6	35	23	23.5	2	......	......	50	38	64	50	82	62	89	70	86	73	78	70	77	56
30	64	44	31	10	43	26	26	1	......	......	50	37	65	47	76	55	84	71	89	71	86	66	64	48
31	59	47	......	......	48	37	42	15	......	......	64	41	......	......	75	47	......	......	87	74	92	68	......	......
Range	51°		58°		60°		62°		65°		71°		50°		44°		40°		34°		32°		44°	
Monthly means	56°.9		40°.4		29°.5		31°.1		35°.9		41°.9		53°.9		66°.5		77°.8		77°.6		76°.3		67°.6	

*Minimum thermometer broken.

Maximum, minimum, and mean temperatures—Continued.

CLEVELAND, OHIO.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	57	44	51	37	33	16	28	24	18	8	31	26	52	33	62	45	67	42	84	64	79	66	......	......
2	54	47	55	35	42	34	24	26	18	1	32	23	46	37	65	43	73	47	84	67	85	69	78	63
3	66	45	47	40	39	30	45	30	40	12	23	3	44	45	45	39	86	56	79	69	76	66	72	57
4	65	49	47	36	38	28	......	......	47	30	11	2	41	57	61	43	85	65	77	69	74	63	84	69
5	83	70	49	40	42	28	33	23	41	26	24	— 2	79	46	65	45	81	61	88	66	79	56	79	60
6	81	56	50	40	38	28	26	21	45	30	43	14	69	42	61	46	75	64	70	58	80	59	68	59
7	50	49	55	33	......	......	33	14	49	29	56	37	68	44	50	51	70	58	71	52	81	66	69	57
8	63	41	47	38	48	28	37	21	38	22	50	37	47	37	61	50	70	51	73	63	80	71	66	54
9	71	48	46	36	28	15	20	6	21	6	40	25	50	37	68	52	82	57	73	60	77	64	69	52
10	62	44	57	34	25	15	5	— 1	40	5	44	23	57	31	60	50	80	60	73	59	79	57	73	55
11	46	37	58	42	24	22	17	1	42	33	41	28	63	37	60	49	72	61	76	58	83	63	77	65
12	54	36	48	36	27	20	42	18	28	19	33	26	43	37	70	46	68	55	73	50	78	57	85	63
13	50	41	51	35	34	19	47	36	25	16	40	26	51	37	56	44	75	47	88	60	71	57	61	48
14	47	40	44	27	41	26	38	34	29	22	53	31	53	37	49	42	81	62	84	69	77	62	53	42
15	50	33	36	24	45	20	54	34	39	22	57	42	55	35	54	42	79	62	81	72	70	64	67	44
16	50	36	30	21	33	19	47	22	37	33	39	32	57	41	60	45	85	62	79	67	75	63	66	52
17	60	37	35	22	30	17	18	14	38	32	42	31	52	38	63	42	75	63	91	69	71	55	72	52
18	57	46	34	25	31	21	16	10	58	35	45	35	46	39	59	40	83	55	84	67	71	62	84	61
19	54	40	33	24	31	11	19	9	38	30	51	34	49	38	61	48	90	71	76	59	76	56	76	53
20	63	35	26	17	31	18	33	18	43	26	45	26	44	35	81	58	81	67	74	59	82	62	56	45
21	71	50	37	13	24	— 7	38	31	36	17	32	27	43	35	79	59	83	56	77	57	82	64	65	40
22	59	50	39	32	13	12	33	27	20	7	37	30	37	31	80	58	84	62	79	67	80	66	65	45
23	54	41	43	29	16	— 1	29	26	3	— 4	44	32	42	33	83	67	84	67	84	65	75	67	62	53
24	54	37	52	39	8	— 4	29	18	20	— 4	32	22	45	35	77	62	81	65	86	69	72	60	69	42
25	55	49	44	34	13	— 2	24	17	28	15	31	25	42	34	77	58	76	57	90	73	81	66	70	52
26	56	50	37	26	16	9	26	17	33	24	31	18	48	34	83	65	82	63	81	69	72	65	79	53
27	54	47	34	18	20	4	22	14	33	18	35	17	61	38	85	68	84	69	78	71	70	58	81	62
28	54	45	28	15	21	10	17	2	29	19	57	26	59	43	74	66	......	......	77	69	76	65	86	61
29	59	40	21	11	23	15	10	—17	......	......	50	33	50	43	82	57	82	64	83	60	77	61	78	56
30	59	39	24	13	32	20	24	4	......	......	46	32	52	34	59	47	73	66	79	64	80	65	63	46
31	53	41	......	......	32	27	28	18	......	......	46	33	......	......	59	45	......	......	79	67	86	66	......	......
Range	50°		47°		60°		71°		62°		59°		48°		46°		48°		41°		31°		46°	
Monthly means	52°		35°.8		21°.9		24°		26°.9		32°.9		44°.8		57°.3		70°.2		71°.9		70°.6		63°.2	

DENVER, COLO.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	85	(*)	53	......	56	39	41	16	29	3	40	21	61	25	58	33	76	44	75	47	78	50	80	56
2	84	......	62	......	43	23	37	21	59	10	44	15	70	41	63	30	77	48	84	53	89	56	88	51
3	80	......	56	......	59	22	32	8	45	30	55	20	75	44	61	35	73	48	93	52	94	54	84	55
4	61	......	42	......	50	28	31	15	40	18	61	23	65	32	60	38	80	45	94	56	92	63	82	50
5	64	......	40	......	43	26	47	13	43	15	67	30	37	25	67	35	86	42	97	59	92	60	78	52
6	72	......	63	......	42	25	48	24	60	25	67	34	32	18	60	40	87	52	97	62	86	59	62	51
7	80	......	63	......	51	21	51	19	49	27	51	29	30	12	57	37	70	52	85	58	88	59	69	51
8	80	......	65	......	49	25	32	13	51	14	58	24	40	10	48	27	69	48	90	59	88	57	79	49
9	57	......	57	......	46	23	30	12	59	18	57	34	52	21	50	30	66	50	82	61	87	60	84	49
10	66	......	36	......	35	19	56	13	46	24	64	39	54	30	68	30	75	48	82	58	86	56	85	50
11	78	......	36	......	28	6	62	31	55	15	67	45	68	31	74	33	84	50	87	61	93	58	80	52
12	70	......	53	......	49	3	54	32	44	30	68	41	72	34	80	41	82	51	93	58	94	58	77	48
13	70	......	23	......	53	17	53	27	48	21	72	38	50	28	78	46	88	51	97	58	95	59	78	46
14	79	......	17	......	32	22	41	24	31	24	68	39	40	17	68	48	80	55	94	54	87	63	88	50
15	68	......	25	......	34	9	36	11	52	12	60	25	50	18	62	45	87	55	99	65	71	53	83	52
16	71	......	37	8	40	5	47	17	56	19	66	26	50	27	54	40	92	54	78	60	79	56	87	47
17	75	......	29	13	35	5	51	30	47	23	53	29	65	24	62	42	91	56	84	56	84	54	86	57
18	80	......	54	16	27	3	55	24	33	11	68	23	65	37	58	38	99	58	86	56	88	55	70	38
19	79	......	51	29	21	– 5	56	35	48	8	59	33	73	40	76	36	86	57	87	52	88	56	73	42
20	74	......	52	27	15	– 1	55	41	35	13	65	25	73	36	69	43	93	68	94	53	87	55	75	41
21	56	......	42	25	28	– 8	54	32	46	27	70	32	81	43	65	46	94	57	95	61	86	51	74	40
22	57	......	52	19	52	13	37	18	37	11	75	36	63	23	73	43	94	60	92	63	90	63	74	37
23	62	......	60	25	15	3	35	19	40	8	69	25	28	17	67	46	87	49	94	65	84	60	81	38
24	65	......	35	15	55	2	34	17	34	18	50	19	30	15	76	47	94	54	87	61	82	53	68	40
25	65	......	44	7	55	40	35	8	41	13	45	11	38	22	68	46	96	54	80	59	91	50	90	45
36	66	......	45	16	41	22	42	15	35	7	67	22	58	31	68	44	96	58	89	51	94	55	71	40
27	67	......	49	10	50	20	30	– 6	46	10	63	36	59	39	75	44	95	54	80	53	96	56	67	35
28	48	......	56	22	50	20	23	–17	40	15	56	34	66	29	84	48	95	53	79	53	82	65	52	34
29	38	......	64	21	54	22	50	1	......	......	70	33	53	33	79	52	85	61	86	52	86	55	68	28
30	53	......	66	42	31	21	52	19	......	......	64	26	38	30	84	52	76	54	89	58	86	55	71	33
31	51	......	......	......	25	13	35	6	......	......	48	35	......	......	67	47	......	......	87	42	86	55	......	......
Range	......		......		67°		79°		57°		64°		71°		57°		57°		57°		46°		62°	
Monthly means	50°		32°.5		27°.6		30°		30°.3		44°		39°.8		53°.3		68°.9		71°.5		70°.8		59°.8	

* Minimum thermometer broken.

Maximum, minimum, and mean temperatures—Continued.

FORT BENTON, MONT.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	(*)	45	......	24	......	26	......	-15	......	-33	......	-18	......	28	......	28	......	38	......	58	......	54	......	48
2	......	39	......	28	......	12	......	5	......	-16	......	-20	......	33	......	37	......	47	......	53	......	48	......	56
3	......	45	......	31	......	22	......	-16	......	3	......	20	......	30	......	43	......	42	......	54	......	53	......	52
4	......	32	......	26	......	24	......	-17	......	3	......	22	......	26	......	38	......	46	......	48	......	61	......	46
5	......	40	......	17	......	15	......	27	......	9	......	30	......	22	......	45	......	54	......	53	......	54	......	49
6	......	40	......	30	......	22	......	8	......	30	......	24	......	21	......	35	......	52	......	54	......	60	......	37
7	......	42	......	30	......	28	......	-23	......	27	......	21	......	22	......	38	......	45	......	61	......	56	......	37
8	......	33	......	29	......	20	......	-26	......	15	......	23	......	31	......	28	......	46	......	57	......	56	......	45
9	......	25	......	17	......	18	......	-26	......	25	......	22	......	33	......	27	......	34	......	64	......	45	......	51
10	......	17	......	9	......	15	......	1	......	14	......	27	......	37	......	38	......	48	......	59	......	50	......	50
11	......	29	......	1	......	4	......	41	......	20	......	19	......	34	......	35	......	62	......	51	......	69	......	50
12	......	34	......	6	......	16	......	15	......	30	......	31	......	37	......	47	......	47	......	57	......	64	......	36
13	......	28	......	6	......	-1	......	15	......	22	......	28	......	28	......	38	......	47	......	46	......	57	......	34
14	......	34	......	-6	......	-21	......	10	......	15	......	19	......	18	......	40	......	54	......	46	......	53	......	53
15	......	37	......	-16	......	-25	......	7	......	31	......	26	......	20	......	36	......	43	......	57	......	48	......	41
16	......	40	......	-9	......	-20	......	12	......	21	......	27	......	27	......	36	......	58	......	55	......	53	......	50
17	......	32	......	-18	......	-11	......	21	......	3	......	28	......	38	......	35	......	57	......	48	......	52	......	41
18	......	43	......	30	......	-37	......	34	......	-13	......	30	......	37	......	39	......	39	......	56	......	57	......	19
19	......	39	......	30	......	-16	......	20	......	-14	......	26	......	43	......	44	......	55	......	55	......	67	......	46
20	......	34	......	34	......	-35	......	33	......	-16	......	36	......	37	......	44	......	50	......	63	......	53	......	43
21	......	22	......	29	......	-39	......	30	......	2	......	30	......	32	......	40	......	51	......	61	......	52	......	38
22	......	17	......	26	......	-24	......	22	......	-14	......	11	......	14	......	45	......	48	......	46	......	47	......	46
23	......	22	......	14	......	-25	......	14	......	-4	......	9	......	14	......	48	......	45	......	53	......	55	......	35
24	......	25	......	0	......	-10	......	-11	......	-3	......	6	......	19	......	44	......	41	......	54	......	46	......	32
25	......	35	......	-2	......	-13	......	-11	......	-7	......	-2	......	22	......	40	......	51	......	55	......	53	......	29
26	......	25	......	-18	......	-18	......	-15	......	-20	......	27	......	34	......	43	......	53	......	60	......	50	......	25
27	......	34	......	-15	......	-15	......	-26	......	-34	......	32	......	24	......	42	......	52	......	56	......	50	......	23
28	......	34	......	-12	......	14	......	-35	......	-15	......	27	......	28	......	42	......	52	......	61	......	51	......	12
29	......	26	......	7	......	-12	......	-1	......	......	......	31	......	27	......	36	......	58	......	57	......	39	......	25
30	......	20	......	38	......	-23	......	-23	......	......	......	29	......	24	......	35	......	57	......	55	......	53	......	25
31	......	16	......	......	......	-23	......	-29	......	......	......	34	......	......	......	38	......	......	......	54	......	47	......	......
Range	......		......		......		......		......		......		......		......		......		......		......		......	
Monthly means	47°.2		24°.3		11°.3		16°.5		18°.4		36°.4		40°.7		52°.4		64°.1		69°.8		69°.3		53°.2	

FORT GARRY, MONT.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	x.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	......	......	......	......	......	......	12	7	− 6	−32	3	− 5	40	30	72	27	67	57	76	43	72	52	74	44
2	......	......	......	......	......	......	24	11	5	−16	− 5	−28	40	33	74	34	76	50	79	55	77	47	76	44
3	......	......	......	......	......	......	12	− 2	12	−15	0	−36	43	28	74	42	75	49	79	52	81	46	72	53
4	......	......	......	......	......	......	− 1	−20	1	−23	15	−16	40	30	65	31	77	46	72	49	87	59	66	42
5	......	......	......	......	......	......	− 6	−31	22	− 9	28	7	39	22	74	34	75	48	76	40	91	68	65	33
6	......	......	......	......	......	......	15	10	26	10	31	22	34	28	72	50	83	47	78	41	77	54	64	37
7	......	......	......	......	......	......	10	− 8	6	0	25	5	29	22	55	36	74	57	71	46	76	53	68	35
8	......	......	......	......	− 1*	−21	− 8	−19	1	−21	18	−11	40	18	48	30	72	52	78	39	94	64	75	39
9	......	......	......	......	0	− 4	−10	−24	17	1	25	6	44	20	45	30	71	45	79	49	81	51	76	44
10	......	......	......	......	4	−15	− 5	−22	17	− 2	28	10	35	24	68	28	71	45	78	35	85	51	77	49
11	......	......	......	......	12	−20	10	− 6	3	−13	11	− 2	42	18	58	30	73	52	83	44	90	51	65	41
12	......	......	......	......	17	− 9	18	9	12	−10	22	− 3	52	34	44	30	70	42	85	61	87	55	50	35
13	......	......	......	......	− 2	−17	10	− 5	19	8	34	8	50	33	58	22	74	50	78	50	83	62	61	28
14	......	......	......	......	−10	−14	15	−14	21	14	36	21	32	20	61	30	83	47	73	46	76	59	68	38
15	......	......	......	......	− 6	−26	15	−19	30	13	31	15	34	16	69	36	82	52	83	44	74	51	65	30.5
16	......	......	......	......	− 5	−32	−14	−27	33	8	34	− 1	42	21	75	40	83	49	77	63	76	49	59.5	26
17	......	......	......	......	−21	−36	0	−21	31	9	36	26	60	24	71	43	88	66	66	57	78.5	47	49	34
18	......	......	......	......	−10	−34	13	0	10	− 1	26	2	41	28	......	......	90	57	76	48	76	54	51	23.5
19	......	......	......	......	−11	−33	21	5	6	− 7	7	− 9	46	22	......	......	76	51	82	51	78	50.5	65.5	21
20	......	......	......	......	−20	−31	21	5	−15	−30	13	− 3	39	19	......	......	81	44	94	51	75	56.5	52	29
21	......	......	......	......	− 8	−38	6	−10	−15	−36	27	− 7	31	16	......	......	75	55	93	58	68	40.5	65	38
22	......	......	......	......	−22	−35	− 7	−25	− 1	−29	20	− 4	35	20	......	......	76	59	76	58	73	37	60	35
23	......	......	......	......	−25	−35	− 3	−31	11	− 5	4	−18	32	22	......	......	76	53	87	44	69	52	62	29
24	......	......	......	......	−20	−41	4	−15	14	3	2	−13	49	21	......	......	83	48	89	62	72	50	50	35.5
25	......	......	......	......	−16	−26	2	−14	22	0	5	−20	47	24	68	52	67	63	78	48	75	43	54	34
26	......	......	......	......	−20	−32	−17	−28	28	20	17	−15	47	21	75	54	83	66	80	54	76	48	46	34
27	......	......	......	......	−13	−35	−20	−31	23	6	32	10	56	23	59	45	77	54	82	45	83	54	46	31
28	......	......	......	......	4	−21	− 9	−33	0	−15	26	16	55	22	57	43	80	50	76	50	77	57	39	31
29	......	......	......	......	6	−25	15	−10	......	......	31	1	65	30	63	34	77	56	72	42	73	48	42	20
30	......	......	......	......	10	−11	− 4	−22	......	......	38	17	58	36	76	38	72	51	77	47	76	33	38.5	25
31	......	......	......	......	10	−11	−21	−35	......	......	45	11	......	......	74	39	......	......	72	52	76	47	......	......
Range	......	......	......	......	58°		59°		69°		81°		49°		54°		48°		59°		57°		57°	
Monthly means	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......

* No reports received from this station previous to December 8, 1872.

Maximum, minimum, and mean temperatures—Continued.

FORT SULLY, DAK.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	85	43	45	28	47	35	16	−1	−5	−25	15	−7	62	31	58	42	81	56	86	52	68	58.5	92	53
2	92	44	40	27	40	29	25	−9	3.5	−21.5	10	−6	59	39	75	36	78	54	93	64	85	52	95	67.5
3	83	45	45	31.5	39	19	19	−1	28	−11	16	−12	69	41	74	40	80	56	100	63	91	59.5	88	61
4	67.5	53	39	32.5	39	25	16	−6	25	2	49	12	55	33.5	59.5	52	94	55.5	85.5	64	96	66.5	75.5	52.5
5	72	47	44	31.5	44	25	22	−13.5	36	14	51	26	41	33	75.5	50	98	62.5	77	58	102	73	71	43
6	72	38	63	31.5	48	18	44	6.5	45	23	65	36.5	35	30	60	51	102	66	85.5	54	97	63	68	50
7	85	43	53	35	51	34	41	−5	39	25	51	28	32	25	64.5	44	88.5	63	85	61	97	62	75.5	38
8	72	48	60.5	30	41	6	2.5	−12	40	20	54	36	39	23	59	37	71	59	87	58	100	69.5	87	57
9	49	31	59	35	24	2.5	3.5	−17	41	16	55	29	50	18	56.5	34	73	51	79	60	89	63	91.5	55
10	63	21.5	36	20.5	35	10	17	−17	36	23	50	34	48	20	63.5	40	77	49	83.5	60	92.5	68.5	100	55
11	70	25.5	31	20	28	8	33.5	−3	27	11	41	26	62	25	74	43.5	91	57	93	63	84	66	85	59
12	65	45	26	10.5	40	7	43	19.5	24	10.5	63	27	81	40	63	51	88	66	101.5	65	91	68	60	43
13	57	40	19	3	34	17	28	7	28	12	59	38.5	63	40	53	37.5	98	61	85.5	63	107.5	72	75.5	34
14	80	36	20	13	19.5	−4.5	22	10.5	34	16	52.5	35	43	30	69	34	89	60	91	61	92	65.5	89.5	52
15	62	38	25.5	16	17	−10	20	−3	43	19.5	42	30	38.5	25	66.5	36	102	59	108.5	73	78.5	57	74.5	53
16	73	31	39	14.5	29	−8	11.5	−12	40	26	60.5	26	46	24	67	45	98	65	88.5	72.5	87.5	51	90	45
17	70	42	17	2.5	17	5	13	−4	30	15	55	28	67	24	56	46	102.5	71	81	61	94	59	81.5	56
18	80	35.5	38	12	−1	−19	41	10	20	8	58	32	56	33	57	46	100	68.5	76.5	55.5	101.5	63.5	57	36
19	......	......	27	5	5	−18	41.5	35	33	2	47	25	73	33	66	48	92	59	89	54	104	60.5	67	27
20	69	40	37	1	−4	−22	45	35	−2	−17	50	16	70	32	69	49	103	64	101	61.5	95	64	70	42
21	54	36.5	38	24	11	−30	37	19	0	−10	50	29	56	26	73	45	105	69	106	69.5	81.5	54	63	44
22	65	24.5	47	28	7	−22	19	−4	0	−20	40	16	36	18	65	46	95	63	94	73	83.5	53	68	32
23	74	36.5	34	22	−14	−26	6	−9	12	−9.5	32	8	39	25	66	50.5	83.5	54.5	101	62	89	68	65.5	41.5
24	73	45.5	33	16	10	−23	5.5	−14	9	−3.5	26	1	43	25	60.5	45.5	92.5	56	89.5	69.5	94	58.5	50	39
25	70	45	36	6	11	−20	8	−2	19.5	−3	22	−7.5	65	29	72	49.5	108	72	85	64	89	62	77	35
26	64	44	23	−5	−5	−22	4.5	−10	17	4	46	5	67	27	68	51	95	71	85.5	57.7	89	60	55	41
27	68	34	6	−11	11	−12	−2	−20	14.5	−2	46	26	72	40	86	48.5	92	65	79	60	104	69	51	35
28	57	37	0	−10	23	−4	5	−28	18	−9	49.5	33	69	34	80	53	83.5	58	90.5	60	90.5	66	46.5	32
29	45	31	14	−15	20	−2	41.5	−10.5	......	......	71	24.5	50	42.5	60	51	82	56	99	60	93	54	60	25
30	45	33	46	10	17	2	35	−8	......	......	56	32	59	44	57	42.5	77	62	83.5	57	88.5	67	58.5	37
31	54	32	......	......	13.5	−18.5	−6.5	−20	......	......	50	34	......	......	57	54	......	......	94	61	83	60.5	......	......
Range	70°.5		78°		81°		73°		70°		83°		63°		52°		59°		56°.5		56°.5		75°	
Monthly means	52°.3		24°.5		11°.5		9°.6		14°.7		32°.4		41°.5		54°.5		74°.2		74°.3		75°.5		57°.3	

GENEVA, N. Y., (HOBART COLLEGE OBSERVATORY.)

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1			53.5	35	26.5	22.5			19	5.5	40	9.5	49	31	70	36	77	32						
2			52	42	41.5	24.5			14	1	36	26	53	39	55	44	75	43						
3			49.5	42.5	36	31.5			34	22	26	6	46	33	42	38	82	60						
4			49	38	33	28			48	32	10	5	46	35	65	35	88	52						
5			50	34	35.5	27.5			32	22	27	5	50	35	60	38	82	58						
6			55	47	33.5	27.5			49	25	37	4	53	35	62	32	78	57						
7			50	39	37.5	24			43	21	50	28	64	42	65	35	65	49						
8			47	41	40	34			47	22	51	31	55	37	52	43	75	47						
9			46	40	19	10.5			33	6	35	20	59	38	62	42	82	42						
10			49	40.5	20.5	12.5			25	5	40	20	55	36	66	54	84	51						
11			54	43	26	16.5			44	23	44	29	60	34	60	43	73	55						
12			47	37	22.5	12	24.5	5	32	11	37	24	49	39	66	41	63	44						
13			46	35	29.5	25	38	26	14	5	43	28	52	38.5	62	38	77	40						
14			46	37	36	30.5	36	19	28	5	46	30	50	37	55	33	76	53						
15			39	29	35.5	20	35.5	19	33	20	45	39	50	39	60	35.5	(†)						63	58
16			35	27	29	20	48.5	34	36	27	47	19	58	33	63	43							62	53
17			37	27		16	27	13.5	34	17	39	27	45	37	68	48							66	38
18			38	30	26	18	16	10.5	41	17	39	28	47	35	65	42							79	47
19			37.5	28	30	22.5	15	19	47	32.5	43	32	46	36	64.5	37							73	43
20			32	24	31	24	25.5	18	33	21	41	32	40	32	70	40							60	45
21			35.5	24	26	15	36	25	33	14	35	25	45	30	56	47							62	45
22			38	34	7	− 7.5	33	25	15	9	35	27	43	32	72	46							65	43
23			42.5	35	9.5	2	17	12	9	− 3	47	22	45	28	75	52							65	48
24			45.5	36.5	5.5	1	20	13	18	− 4	28	12	45.5	32	74	55							70	48
25			47.5	32	6	4	17	1	29	11	34	16.5	48	30.5	77	52							70	48
26			37	31.5	5.5	5	28	16	35	21	37	20	47	33	85	48							70	48
27			35.5	22	12.5	− 3.5	26	23	36	22	33	10	53.5	32	82	61							88	48
28			33	15	17	7	20	0	31	15	43.5	8	58	33	77	62							84	65
29			22	13			10	− 6			44	34	61	33	79	52							77	51
30	*57	34	22.5	14.5			23	− 5			40	30	63	39	57	39							56	36
31	54	32.5					21	11			46	31			70	33								
Range			42°		45°				53°		47°		36°		53°									
Monthly means																								

* First reports received from this station October 30, 1872.

† No reports received since June 14, 1873.

Maximum, minimum, and mean temperatures—Continued.

HALIFAX, N. S.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1									25	7	31	21	38	30	65	28	67	41	78	57	69	61	70	55
2									10	−11	37	15	41	28	62	36	62	37	68	56	81	62	75	55
3									32	−12	31	20	54	32	38	30	55	37	85	36	85	62	66.5	48.5
4							(*)		38	31	20	13	53	33	45	24	71	35	85	57	85	57	71	46
5							35	19	41	14	36	4	47	28	43	26	53	41	70	57	73	51	68	60
6							49	23	34	8	40	9	47	24	58	30	57	45	64	57	74	47	76	49
7							25	14	40	26	42	24	49	30	55	27	54	45	80	55	68	50	71	42
8							28	6	43	30	45	28	39	34	62	27	63	44	76	49	83	59	68	46
9							38	20	39	27	44	28	46	29	72	32	53	44	62	52	84	54	69	45
10							33	21	28	7	34	21	39	31	53	26	55	45	82	59	79	51	67	41
11							26	3	27	2	44	21	56	33	47	40	55	46	68	56	76	48	67	50
12							10	−2	32	8	45	31	47	30	52	43	72	48	75	54	81	49	76	53
13							27	4	17	−1	43	25	36	33	68	43	75	43	78	44	81	49	65	50
14							41	24	20	−8	39	21	44	33	60	39	68	42	83	53	77	49	76	58
15							24	7	26	−1	38	21	43	32	51	36	64	47	86	57	75	58	65	43
16							48	10	34	5	36	21	45	29	62	36	81	49	74	53	80	67	62.5	38.5
17							52	45	34	22	33	24	57	25	51	39	67	46	70	46	82	54	67	41
18							45	26	23	1	34	23	41	27	60	37	70	47	65	42	82	50	68	39
19							38	33	32	0	32	24	36	33	58	37	56	48	65	43	72	55	59	56.5
20							34	27	35	14	36	23	48	33	56	35	68	45	78	53	73	61	77	47
21							36	28	34	14	35	29	54	34	70	32	60	49	78	53	76	57	63.5	40
22							41	28	38	23	39	28	47	32	64	36	63	45	86	55	73	56	61	39.5
23							30	10	29	20	37	23	51	33	72	45	82	46	85	57	75	59	62	50.5
24							27	1	26	9	37	17	55	36	75	46	76	56	87	56	62	56	60	55
25							36	21	30	5	35	15	60	32	67	43	78	47	81	54	64	50	65	51
26							27	18	29	15	37	30	38	32	78	45	84	47	81	57	61	48	64	48
27							30	20	36	14	44	27	63	34	78	48	86	53	80	57	65	46	73	44
28							29	17	33	14	43	21	60	32	73	46	77	50	84	58	80	44	85	53
29							21	−6			48	29	59	28	82	48	86	55	65	56	87	46	71	54
30							11	−14			43	33	51	30	76	44	80	55	75	58	71	53	63	45
31							36	2			48	34			70	39			88	61	83	59		
Range							66°		55°		44°		39°		56°		51°		46°		41°		46°.5	
Monthly means																								

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* No reports received from this station previous to January 5, 1873.

Maximum, minimum, and mean temperature—Continued.

INDIANOLA, TEX.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	81	70	70	57	73	60	68	59	54	45	75	60	76	66	78.5	62	85.5	76	90	79.5	92.5	78	90	77
2	81	68	69	60	72	60	63	45	53	41	65	45	72.5	63	78	61	88	76	92	80	93.5	78	90	78.5
3	83	70	79	61	68	58	63	51	65	44	53	42	83	69	74	62	90	76	94	78	93.5	77.5	90	79
4	82	73	84	68	66	61	65	50	73	52	57	48	81	71	70	55	88.5	74	94	78.5	92.5	76	91	79
5	83	70	73	66	67	62	58	50	74	57	63	54	82	70	78	65	88.5	75.5	90	76.5	60	79	92.5	78.5
6	77	68	73	52	64	61	54	43	64	55	68	33	80	69	78	65	91	78.5	91.5	78.5	80.5	79, 5	91	78.5
7	78	66	57	49	65	60	66	50	67	51	78	60	79	48	83.5	64	87	67	93	78	89.5	79.5	87.5	76.5
8	76	67	58	49	67	57	61	47	63	50	76	62	56	43	84	66	90	76	94	77	90.5	77.5	83.5	67.5
9	81	67	62	54	61	56	57	45	60	48	77	62	69	40	75	61	91	77	95	76	85.5	76	78.5	70.5
10	83	69	77	55	47	41	54	42	72	58	76	63	73	53	77	63	86	77	92.5	77.5	88.5	76	81	74
11	74	57	75	64	42	35	67	46	71	52	79	64	78.5	59	79	66	88	76.5	93.5	78	80.5	77.5	87.5	78.5
12	72	57	69	58	46	32	74	56	71	42	72	64	71.5	61	74	68	88	77 5	93.5	78.5	87.5	77.5	86	76
13	77	57	76	55	55	41	73	57	70	52	73	63	74.5	67	83	72	93	78	94	79.5	93	78.5	84.5	69
14	76	63	51	30	67	56	73	58	70	58	77	64	81.5	58	86	73	90.5	79	93.5	78	94	79	79	70
15	82	65	45	32	68	44	66	47	70	57	80	65	67	54	87	72	91.5	76.5	89	78	96.5	78.5	80.5	71.5
16	83	67	49	34	47	42	51	38	70	48	72	64	73.5	45	79	72.5	88	71	85.5	76	94	78.5	83	71.5
17	82	69	46	40	48	38	51	38	71	57	76	63	74	57	85	74	86	73	85	75	86.5	78	84.5	71
18	79	67	50	35	56	43	54	35	76	57	76	68	77	59	84	73	89	74	87	74	85.5	76	85	72
19	77	65	61	33	59	46	70	46	78	62	80	67	77	67	85	73.5	89.5	79.5	81	72.5	85.5	76.5	87.5	71.5
20	78	66	60	38	48	36	70	56	78	66	71	66	80	63.5	86	74	89	79	79	72.5	86.5	75	83.5	77
21	78	65	73	50	52	37	63	53	62	49	72	58	87	62	85.5	74	89	80	83	72	90.5	77	84.5	79
22	79	67	58	45	46	32	71	53	64	53	73	61	78	67	87.5	75.5	89	79.5	83	74	86.5	77.5	91	77.5
23	77	58	72	46	51	42	59	42	57	41	77	57.5	72	62	86.5	77	88	80	85.5	72	84.5	74.5	81	74.5
24	72	57	78	64	33	26	55	37	73	50	77	64	66	52	87	76.5	91	78	86	73	87.5	79	89	75
25	69	59	73	61	41	21	70	49	76	61	68	48	66	49.5	87	76	89	77	88	77	85.5	72.5	83.5	75.5
26	75	64	64	53	46	32	51	37	74	64	55	35.5	68	56.5	83.5	67.5	90.5	77	89	78	85.5	75.5	84	72.5
27	84	69	63	42	38	22	57	37	62	52	67.5	48	81	67	87	66.5	93.5	77	91	78	88	77.5	86.5	79.5
28	83	74	59	41	43	31	52	19	65	59	81	63	80	70	81	70	96.5	74	88.5	76.5	88	77	88.5	79.5
29	73	54	58	43	60	41	29	15	......	......	73.5	62	82	71	87.5	76	97.5	77.5	91.5	78	83.5	72.5	85.5	74.5
30	70	53	69	47	71	53	43	25	......	......	80	65	83.5	66.5	86.5	73	91	79	90	80	80	72.5	76.5	67
31	67	58	......	......	66	51	54	38	......	......	80	67	......	......	84	76	......	......	91	78	90	77.5	......	......
Range	31°		54°		52°		59°		37°		45°.5		47°		33°.5		30°.5		23°		24°		25°.5	
Monthly means	71°.5		57°.5		50°.3		51°.5		60°.3		65°.3		67°.6		75°.5		82°.3		82°.2		82°.1		79°.8	

Maximum, minimum, and mean temperatures—Continued.

KEOKUK, IOWA.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	69	47	60	42	47	15	30	19	18	-4	32	23	43	35	69	49	78	49	73	65	92	73	84	69
2	80	54	43	35	49	22	35	25	19	-11	25	9	58	33	52	45	86	64	80	65	81	67	84	61
3	84	60	46	34	41	27	26	19	42	18	18	-1	71	44	60	43	86	68	87	70	77	57	90	66
4	85	61	53	38	44	22	29	8	36	28	25	-2	83	62	67	44	74	65	91	69	79	56	78	65
5	72	53	45	39	43	21	25	8	49	23	46	19	83	62	69	49	83	61	......	......	82	59	75	60
6	67	50	55	35	41	23	28	-7	49	26	61	36	65	52	73	55	88	67	80	67	88	63	65	55
7	68	50	59	42	49	24	44	15	45	35	58	42	45	38	60	52	87	72	72	66	90	70	67	54
8	77	50	49	35	39	14	14	4	35	21	61	33	36	32	63	54	80	70	78	65	94	73	71	51
9	69	47	59	33	21	4	6	-7	46	12	50	38	42	32	58	45	84	65	82	63	95	73	76	53
10	55	33	60	42	30	8	15	-11	46	38	60	36	52	36	61	47	77	63	76	64	93	73	82	59
11	56	34	50	30	27	16	37	5	40	21	43	31	44	36	64	44	80	59	75	60	94	75	87	68
12	66	44	53	36	30	21	47	32	25	14	45	22	57	34	60	50	84	60	80	58	85	72	73	57
13	53	39	35	21	42	21	36	27	27	18	65	37	66	43	70	50	85	70	92	74	87	69	57	47
14	51	27	32	19	44	18	34	21	36	19	72	39	53	44	61	46	90	70	93	80	84	63	65	45
15	71	38	26.5	19	22	2	41	27	37	26	62	40	43	37	59	43	93	76	96	79	83	68	79	58
16	61	39.5	33	19	21	10	27	-4	45	26	52	30	46	36	65	46	91	78	95	80	79	60	73	48
17	66	39	34	11	32	7	10	-10	47	31	62	35	45	38	62	50	89	74	87	76	82	59	86	62
18	67.5	37.5	29	9	27	15	16	0	49	29	55	40	58	41	67	53	90	69	77	65	88	64	73	48
19	72.5	44	29	14	12	2	32	8	35	22	59	33	59	40	73	53	94	75	78	56	93	69	60	40
20	79	51	27	6	17	-1	39	26	32	9	36	18	57	44	76	53	86	66	83	66	92	71	64	43
21	73	49	39	25	0	-11	33	26	22	0	43	23	69	39	78	59	91	69	82	61	92	69	72	50
22	57	42	46	26	20	-10	35	24	10	-3	54	27	47	33	86	66	89	72	87	69	94	68	67	56
23	62	37	59	36	-6	-12	26	13	13	-4	42	26	47	32	80	64	90	70	90	64	94	70	69	48
24	59	36	57	34	-5	-22	14	-2	25	2	33	27	44	34	82	59	94	79	95	71	94	74	67	47
25	61	35	38	21	10	-12	19	-3	33	10	26	20	49	32	78	65	94	78	87	76	96	70	67	47
26	62	36	44	21	18	5	21	-5	39	11	32	10	61	39	80	64	92	72	86	69	92	73	85	61
27	64	36	30	-2	12	-14	15	-5	25	11	48	27	60	45	72	64	96	73	89	67	83	64	85	77
28	68	38	30	10	26	6	-6	-16	33	11	50	39	62	41	83	62	89	69	89	68	85	62	80	52
29	63	47	18	-3	32	15	5	-26	......	......	56	34	63	40	83	63	87	68	87	65	86	63	57	44
30	58	45	30	11	38	26	28	-1	......	......	55	39	60	45	59	45	85	64	88	67	97	68	63	41
31	56	36	......	......	37	22	29	6	......	......	53	36	......	......	68	43	......	......	85	70	102	89	......	......
Range	58°		63°		71°		73°		60°		74°		51°		43°		47°		40°		46°		49°	
Monthly means	55°.5		34°.6		20°.5		17°.6		26°.1		38°.7		48°.5		61°.5		77°.9		76°.3		78°.7		63°.9	

KEY WEST, FLA.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	87	79	82	72	73	59	76	......	68	62	75	64	84	74	90	74	91	73	......	......	91	80	89	80
2	83	75	84	75	72	(*)	74	......	74	63	81	68	87	74	89	76	85	75	......	......	87	78	91	79
3	83	78	81	74	73	......	76	68	77	67	74	57	85	74	91	75	89	76	......	......	89	75	88	80
4	87	75	78	72	72	......	81	70	81	70	67	54	85	75	81	73	91	77	......	......	89	78	90	80
5	81	74	85	75	76	......	80	68	82	69	66	53	85	74	91	71	90	80	......	......	91	80	90	77
6	86	76	86	76	79	......	75	66	82	71	68	58	83	74	87	76	89	79	......	......	90	79	86	71
7	86	78	87	77	74	......	70	65	75	66	69	59	83	73	89	76	90	79	......	......	88	75	85	77
8	89	79	86	76	74	......	68	64	74	64	73	62	84	74	91	75	90	76	......	......	91	78	80	70
9	88	79	86	78	70	......	69	61	71	61	75	63	86	71	92	76	80	74	......	......	......	......	85	75
10	86	79	83	76	72	......	69	62	70	59	78	64	86	75	90	76	88	72	......	......	90	74	86	80
11	85	77	84	77	82	......	62	55	76	67	80	64	86	74	90	77	88	77	......	......	89	81	83	74
12	86	74	81	75	75	......	66	57	80	70	75	67	75	70	85	74	88	79	......	......	92	79	89	79
13	87	77	83	74	62	......	71	63	76	67	72	66	78	68	85	76	88	79	......	......	93	80	85	78
14	80	75	80	72	69	......	73	64	83	70	74	66	83	65	85	75	89	79	......	......	92	80	91	79
15	79	73	80	69	71	......	76	66	80	72	71	66	83	73	90	78	91	79	......	......	90	80	88	78
16	79	72	71	61	79	......	80	65	82	72	79	67	85	74	89	78	91	78	......	......	91	80	88	76
17	82	74	68	58	79	......	70	62	78	69	78	67	74	62	89	78	91	79	......	......	90	81	84	79
18	82	75	71	66	82	......	65	60	80	68	82	67	76	61	90	78	(†)	......	......	......	91	81	86	79
19	80	75	70	67	80	......	65	59	79	67	92	67	73	62	87	79	......	......	......	......	89	79	86	80
20	82	74	69	66	82	......	62	54	80	69	82	71	77	64	87	79	......	......	......	......	88	79	91	79
21	79	74	72	64	75	......	73	57	80	69	74	65	78	70	90	79	......	......	......	......	89	72	89	80
22	85	74	72	68	69	......	76	62	83	71	77	64	76	70	88	78	......	......	......	......	89	77	89	77
23	80	78	73	67	73	......	73	66	81	68	80	69	84	68	92	79	......	......	......	......	88	76	90	80
24	82	77	79	69	79	......	68	63	71	65	82	72	85	71	92	79	......	......	......	......	90	78	89	79
25	79	74	80	72	81	......	64	58	77	66	89	73	87	71	89	77	......	......	......	......	88	76	89	80
26	77	74	85	72	74	......	76	61	79	70	85	67	78	70	91	79	......	......	......	......	91	80	89	80
27	78	73	82	70	70	......	81	70	83	71	79	65	84	70	89	78	......	......	......	......	90	80	87	77
28	75	70	74	70	64	......	81	71	74	68	85	70	90	75	91	78	......	......	......	......	90	81	86	75
29	78	70	72	65	70	......	82	70	......	......	86	73	89	75	88	75	......	......	......	......	90	82	87	76
30	78	70	65	56	71	......	82	71	......	......	82	72	85	75	90	79	......	......	89	82	90	81	85	72
31	82	72	......	......	72	......	76	66	......	......	83	72	......	......	91	77	......	......	91	81	88	79	......	......
Range	19°		31°		....		28°		21°		36°		29°		21°		....		....		21°		21°	
Monthly means	78°.2		73°.7		69°.1		69°.9		72°.1		71°.5		76°.8		82°.4		83°.6		83°		83°.5		82°.5	

* Minimum thermometer broken.

† Maximum and minimum thermometers broken.

Maximum, minimum, and mean temperatures—Continued.

KINGSTON, CANADA.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	59	42	54	32	30	21	25	7	20	−5	32	16	42	20	61	37	65	46	75	65	81	69	78	61
2	59	38	48	34	14	26	34	19	15	−10	34	22	45	34	52	37	71	56	81	63	79	67	75	57
3	61	44	45	34	40	30	42	33	29	9	22	4	40	34	48	36	74	56	78	67	79	62	74	52
4	59	39	50	32	37	18	37	24	40	29	17	2	45	30	55	37	74	57	75	63	76	58	73	63
5	73	43	50	33	35	22	27	21	32	14	21	−3	42	34	60	42	69	48	78	56	76	54	74	54
6	70	58	51	41	33	16	26	0	42	24	26	3	42	34	67	37	67	53	73	56	78	65	63	44
7	68	41	50	35	35	15	22	−2	40	21	41	23	41	34	68	40	67	53	73	52	74	66	62	46
8	59	41	51	36	40	32	32	5	38	20	42	31	40	34	60	47	72	49	72	58	81	62	67	47
9	67	38	47	33	36	5	28	3	21	1	32	16	46	34	65	47	76	56	75	54	80	58	71	48
10	51	42	47	31	15	6	8	−6	9	−6	35	22	42	33	61	44	80	54	76	58	78	55	71	56
11	51	33	51	37	12	−1	10	−8	39	10	39	28	57	32	60	41	74	57	72	57	80	58	74	61
12	51	32	52	35	21	3	10	−9	16	4	34	25	55	35	54	38	71	48	73	58	71	62	80	62
13	50	39	40	28	30	20	40	8	9	−7	35	20	52	35	55	40	75	49	78	60	76	63	79	49
14	48	38	43	33	35	26	37	9	17	−2	41	27	50	34	51	34	75	58	81	67	77	61	53	42
15	47	33	41	25	40	16	34	3	28	5	41	30	52	38	55	35	77	57	85	67	72	58	60	42
16	50	35	36	24	30	20	49	33	35	15	42	26	53	35	58	41	69	57	77	59	73	57	64	45
17	55	32	37	17	30	16	45	6	37	19	40	23	52	33	61	43	68	51	70	61	73	57	61	38
18	55	41	39	27	28	15	10	1	40	14	37	24	45	34	64	42	72	48	78	60	73	58	75	53
19	46	33	31	24	25	11	18	6	40	27	41	25	45	33	68	40	76	52	75	59	73	58	70	47
20	49	28	30	11	36	11	27	11	30	14	36	31	42	32	74	46	80	62	69	55	77	60	61	42
21	61	45	36	11	23	15	30	24	31	13	35	28	45	31	59	50	75	52	72	58	80	64	61	36
22	64	51	37	31	16	−8	26	11	15	4	35	23	45	27	71	48	71	50	73	57	79	62	62	51
23	58	41	38	31	18	−2	13	−6	8	−9	40	13	44	25	74	54	77	52	80	65	71	53	63	52
24	56	32	41	34	0	−18	8	0	19	5	22	5	42	32	73	50	81	63	84	67	......	......	67	47
25	52	38	52	34	−1	−24	14	3	29	11	19	10	45	32	74	54	84	58	83	64	......	......	65	54
26	53	44	35	27	−2	−11	20	7	34	16	23	15	52	33	79	49	78	62	73	63	......	......	65	51
27	51	44	35	17	−1	−8	22	12	30	19	24	5	51	35	73	57	78	60	79	62	......	......	78	59
28	47	32	25	15	12	−8	23	−4	37	22	39	9	51	32	69	54	82	66	87	61	......	......	77	60
29	52	32	25	7	10	−4	3	−20	......	......	40	35	61	34	65	46	81	63	79	68	......	......	71	51
30	58	31	22	7	12	−5	22	−1	......	......	41	30	55	35	61	44	82	68	79	63	......	......	59	42
31	52	33	......	......	12	2	25	15	......	......	41	29	......	......	63	40	......	......	81	60	71	62	......	......
Range	45°		47°		65°		62°		52°		45°		41°		45°		38°		35°		......	......	44°	
Monthly means	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......

Maximum, minimum, and mean temperatures—Continued.

LA CROSSE, WIS.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	......	......	46	29	34	15	19	5	0	-20	34	3	45	32	54	43	81	49	81	58	76	64	73	58
2	......	......	38	33	38	18	24	16	7	-32	23	4	49	31	52	44	84	62	83	64	72	62	79	51
3	......	......	46	34	37	11	27	5	24	0	23	-13	59	33	69	37	69	59	81	65	77	53	86.5	57
4	......	......	40	32	40	11	10	-9	28	3	21	-23	62	39	75	42	80	56	84	64	83	56	77	58
5	......	......	41	37	40	8	14	-12	34	-7	37	10	52	42	75	46	86	57	77	63	85	60	59	52
6	......	......	51	31	33	11	18	-26	42	4	51	23	47	39	77	52	92	61	81	58	88	66	71	53
7	......	......	50	39	42	11	36	5	42	14	51	25	45	36	68	54	91	66	80	64	89	68	63	44
8	......	......	50	32	37	1	8	-14	17	3	46	19	37	30	62	50	77	67	78	59	90	64	69	41
9	......	......	55	33	12	-8	-4	-20	29	-3	29	23	35	25	53	44	70	63	71	62	93	67	73	52
10	......	......	51	35	15	-8	4	-18	43	16	46	23	47	27	55	45	76	57	77	57	87	67	83	56
11	......	......	42	23	21	8	23	-6	27	-5	35	15	46	35	64	37	78	57	78	54	83	61	92	56
12	......	......	45	26	27	7	37	5	23	-5	43	13	60	28	74	38	82	57	82	56	90	61	76	48.5
13	......	......	43	20	29	15	38	20	20	-11	53	31	57	48	55	37	84	66	91	72	86	63	54	42
14	(*)	......	30	18	32	5	27	19	31	-1	56	34	69	52	49	40	88	60	92	73	84	62	58	33
15	58	38	26	18	13	-13	28	10	34	10	51	34	52	39	69	42	89	64	89	71	72	62	68	55
16	55	29	31	14	12	-10	12	-21	41	14	46	25	53	39	72	45	83	64	95	75	75	63	69	40
17	61	36	23	10	19	-3	0	-30	45	12	52	40	47	38	72	47	89	60	84	71	74	52.5	77	49
18	64	30	19	0	10	-10	-3	-43	44	11	48	33	62	40	70	49	90	71	72	57	84	54	75	43
19	72	30	22	8	2	-19	23	-12	27	-1	43	28	53	35	62	49	80	70	77	53	92	66	55	37
20	84	46	20	-3	4	-16	32	18	28	-15	30	13	49	39	63	48	87	58	77	57	94	70	59	33
21	72	38	38	16	-11	-29	27	18	3	-25	39	20	41	27	76	48	90	64	84	56	87	65	70	47
22	54	31	40	26	12	-21	20	2	-2	-23	46	22	48	30	70	55	86	72	90	65	82	61	59	45
23	61	28	42	25	-10	-28	18	-5	8	-29	44	11	40	28	72	58	89	70	95	69	85.5	61	66	38
24	60	30	35	25	-6	-37	12	-8	21	-12	32	21	43	29	75	57	90	75	93	71	86	68	56	47
25	61	29	35	15	4	-6	8	-16	32	-3	24	13	54	31	82	53	96	72	93	68	89	67	65	45
26	61	28	39	7	13	-5	17	-8	29	21	30	6	57	42	75	64	92	73	80	78	80	65	81	45
27	65	31	11	-13	5	-23	10	-8	29	11	43	19	67	35	69	58	82	64	86	55	83	61	63	51
28	66	31	4	-10	13	-17	-4	-28	33	6	50	34	59	41	82	55	92	67	88	56	87	59	53	48
29	61	48	12	-4	22	6	4	-36	......	......	47	31	67	47	66	44	81	64	86	60	86.5	63.5	50	38
30	55	39	18	-11	25	13	30	-1	......	......	41	36	67	42	67	36	81	54	91	63	73	64	59	31
31	42	38	......	......	24	10	16	-4	......	......	59	30	......	......	78	44	......	......	87	64	78	65	......	......
Range	......	......	68°		79°		81°		77°		82°		44°		46°		47°		42°		41°.5		61°	
Monthly means	......	......	27°.3		9°.7		6°.7		17°.7		30°.7		43°.7		57°.5		73°.6		72°.4		71°9		56°.6	

* Station opened October 15, 1872.

Maximum, minimum, and mean temperatures—Continued.

LEAVENWORTH, KAN.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	78	49	53	43	55	38	30	22	4	−5	36	30	57	34	54	47	82	61	79	65	82	69	80	72
2	83	53	48	38	53	34	30	25	26	−9	30	13	67	31	54	43	84	66	83	64	74	63	87	67
3	87	60	51	35	45	27	34	19	44	32	30	7	78	43	66	44	82	65	87	71	80	55	91	67
4	82	61	48	41	49	28	29	26	43	30	34	10	85	66	66	48	80	59	92	73	81	59	87	72
5	61	54	50	39	43	24	21	10	48	24	64	26	80	55	73	43	83	59	90	70	84	64	81	63
6	69	46	59	36	45	28	30	12	49	36	61	41	69	39	73	53	85	62	91	74	88	62	68	58
7	75	48	64	45	57	29	30	15	49	36	55	46	43	34	66	55	85	65	86	72	89	63	69	52
8	81	55	59	42	39	15	14	9	38	30	63	32	34	28	66	50	82	68	85	66	88	65	72	45
9	61	45	68	45	23	6	7	0	50	27	52	39	50	28	56	47	72	64	87	69	91	70	76	54
10	53	35	58	59	25	16	17	−11	50	40	64	35	46	38	65	46	78	57	80	65	93	70	86	54
11	61	31	52	27	25	16	42	20	36	28	44	34	56	37	78	45	81	57	77	64	92	73	90	65
12	74	47	50	31	34	18	47	41	32	16	48	26	61	34	84	49	83	58	88	65	92	75	81	59
13	61	43	32	23	44	24	37	32	34	23	68	36	68	49	78	60	77	64	92	75	93	75	64	44
14	59	36	27	20	35	14	38	34	46	28	73	46	58	35	73	56	89	62	94	77	93	75	73	44
15	78	50	29	22	22	4	35	15	38	34	54	36	39	33	56	45	87	67	92	74	85	68	83	57
16	63	42	31	23	22	11	14	2	50	34	58	29	44	32	70	53	89	66	92	76	80	58	74	56
17	71	42	29	14	29	9	10	−7	62	38	64	41	53	37	71	58	86	67	87	75	82	57	69	56
18	74	42	37	10	28	11	21	−2	39	31	58	42	63	36	66	56	90	66	77	64	88	63	77	49
19	83	48	29	19	13	9	41	24	44	24	57	34	60	38	69	55	91	69	78	55	88	63	63	38
20	81	51	31	9	16	−6	48	30	34	12	42	22	65	36	78	49	88	67	80	55	88	65	70	47
21	66	45	42	32	0	−9	42	30	48	9	46	30	81	42	79	57	88	71	82	60	89	63	68	47
22	58	43	52	25	28	9	36	22	15	2	72	34	82	38	85	63	84	69	85	63	91	68	70	54
23	61	33	55	38	−4	−8	16	9	24	8	55	26	50	34	79	56	84	76	89	64	91	65	72	52
24	62	35	40	29	−4	−13	11	−2	28	10	45	29	46	33	83	63	91	74	92	67	90	71	66	50
25	61	35	37	18	14	1	19	5	33	23	30	10	52	26	70	61	92	72	88	74	94	70	77	43
26	64	33	45	16	2	−4	20	2	35	18	34	10	62	37	77	57	94	72	86	69	96	74	84	63
27	68	37	27	6	13	−4	19	−3	29	12	59	27	52	38	78	54	97	66	88	64	93	71	81	69
28	71	55	20	9	25	15	−3	−13	31	61	58	42	64	45	81	57	87	68	85	67	95	72	74	48
29	60	45	24	0	33	13	6	−29	......	......	67	33	66	41	85	66	81.5	66	87	63	98	73	57	39
30	58	41	38	15	27	33	23	5	......	......	60	40	57	44	81	59	88	63	83	67	99	74	65	38
31	60	36	......	......	23	17	24	2	......	......	56	34	......	......	72	56	......	......	86	67	97	74	......	......
Range	56°		68°		70°		77°		71°		66°		59°		42°		40°		39°		44°		53°	
Monthly means	56°.4		35°		21°		19°		30°		42°.1		48°.6		63°		75°.5		77°.5		79°.2		65°.4	

Maximum, minimum, and mean temperatures—Continued.

LEXINGTON, KY.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	......	......	56	41	45	22	39	34	39	22	39	28	60	45	69	55	77	57	82	67	83	70	92	70
2	......	......	56	44	48	40	53	38	37	32	35	25	54	40	66	52	82	63	87	73	86	70	84	64
3	......	......	49	35	43	30	52	36	52	31	29	4	72	42	68	46	87	68	89	77	77	65	86	68
4	......	......	55	35	43	26	35	27	60	41	25	−1	80	56	62	43	85	69	89	64	76	57	86	69
5	......	......	52	45	45	30	35	27	50	34	31	9	84	65	70	50	80	70	81	64	81	57	82	66
6	......	......	43	39	46	26	32	23	48	38	50	25	84	66	75	58	82	67	77	61	85	64	77	57
7	......	......	59	37	50	26	41	25	51	34	59	37	80	66	65	55	82	67	81	61	84.5	67	66	55
8	......	......	52	41	45	30	38	30	45	25	55	39	80	57	68	60	78	57	77	64	81	68	73	49
9	......	......	52	36	30	19	26	15	34	15	60	39	62	35	72	56	85	63	80	61	81	83	79	64
10	......	......	63	39	22	9	17	5	45	25	60	38	57	37	70	54	70	68	82	67	86	67	82	64
11	......	......	59	51	22	16	36	7	44	36	56	39	55	38	72	50	72	65	79	61	88	70	86	65
12	(*)	......	42	35	22	11	53	30	40	26	56	25	47	37	75	51	76	60	86	60	78	66	85	66
13	55	40	58	32	39	18	49	41	36	22	50	33	59	39	73	61	82	58	83	65	79	67	73	52
14	48	32	36	25	46	26	49	43	42	29	63	41	66	46	72	58	73	64	86	68	74	59	63	43
15	59	33	31	25	40	32	63	46	42.5	31	72	45	56	51	67	49	83	64	83	69	80	60	73	43
16	67	47	29	19	38	25	56	24	57	40	51	37	55	45	70	52	85	70	87	67	76	66	78	59
17	72	58	35	19	31	20	24	10	45	34	56	34	55	41	68	50	81	70	90	74	73	66	82	61
18	63	51	36	22	32	27	20	10	64	38	58	45	48	39	76	50	78	68	85	73	78	60	84	67
19	62	42	37	24	41	25	23	9	54	39	60	40	61	39	81	56	79	72	84	63	79	63	77	50
20	71	41	31	18	40	19	39	29	52	34	56	31	60	41	82	64	83	69	79	61	81	62	63	41
21	72	49	43	19	21	0	42	20	51	20	38	27	60	42	73	61	85	64	81	61	85	65	72	47
22	65	57	40	31	22	5	39	30	31	17	52	29.5	78	40	81	62	84	72	84	64	87	70	75	60
23	49	45	51	26	25	4	45	30	24	1	62	40	41	32	85	64	85	72	86	67	89	71	63	55
24	55	39	57	35	9	−2	26	15	25	4	59	43	48	31	84	64	88.5	70	90	70	90	69	72	53
25	59	49	52	35	23	5	32	16	36	20	56	40	45	33	81	70	85	66	87	69	92	72	72	60
26	57	49	40	32	22	11	30	20	42	20	40	21	55	34	83	65	86	71	78	67	89	71	82	63
27	61	42	35	21	13	11	31	18	39	25	45	26	63	46	82	64	80	70	78	66	84	69	85	69
28	55	44	35	17	23	4	25	5	39	25	59	35	59	45	76	67	82	68	81.5	67	75	64	85	70
29	65	44	15	2	32	20	15	−3	......	......	49	36	60	47	76	64	79	70	83.5	68.5	79	64	75	55
30	52	43	24	5	38	30	20	3	......	......	60	35	64	45	79	56	77	69	87	68	85	66	63	45
31	56	41	......	......	41	37	39	21	......	......	56	38	......	......	71	48	......	......	83	70	89	73	......	......
Range	......	......	61°		52°		66°		63°		37°		53°		42°		31°5		30°		35°		51°	
Monthly means	......	......	38°.2		27°.9		30°.4		35°.6		40°.9		53°.1		64°.7		73°.7		76°.5		73°.7		66°.8	

* Station opened October 11, 1872.

Maximum, minimum, and mean temperatures—Continued.

LOUISVILLE, KY.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	65	46	59	38	59	38	45	34	36	21	43	31	65	46	76	53	83	65	87	71	87	75	94	72
2	72	44	60	44	60	44	55	36	35	10	36	28	57	44	65	52	83	66	91	77	89	74	83	63
3	81	57	50	38	50	38	49	37	54	32	28	10	77	43	59	49	75	68	93	78	80	67	89	75
4	85	64	60	39	60	39.5	38	28	59	42	23	3	83	61	65	45	76	65	93	70	80	59	83	74
5	85	65	57	47	57	47	36	27	53	33	37	13	......	......	73	47	82	62	87	69	82	66	84	70
6	81	57.5	50	42	50	42	32	27	53	36	61	23	87	71	77	57	83	61	80	65	90	62	77	52
7	66	51	61	36	61	36	45	27	55	33	60	44	78	56	71	58	81	73	82	65	90	75	73	60
8	70	49	54	44	50	32	42	25	45	22	59	41	78	52	71	60	83	51	78	66	88	78	76	54
9	74	49	56	38	32	12	20	14	36	18	63	43	57	41	77	55	86	62	81	63	88	70	80	52
10	62	44	62.5	37.5	30	13	18	5	51	29	64	33	63	41	68	52	90	68	82	69	89	70	86	61
11	54	37	59	49	30	21	42	13	48	39	51	39	56	44	68	48	88	71	82	65	93	77	88	68
12	60	36	49	37	33	17	51	35	42	30	43	29	49	39	82	48	83	75	88	66	85	73	89	73
13	58	42	55	40	43	20	56	48	42	26	55	31	63	41	79	61	85	73	89	77	82	60	......	......
14	50	35	41	30	48	29	55	39	43	27	68	38	73	39	75	57	86	70	93	77	79	64	64	49
15	61	33	32	27	45	31	61.5	39	47	33	71	46	61	47	61	47	90	72	92	72	83	65	75	42
16	67	51	......	......	34	29	60	21	51	21	51	33	55	45	72	52	90	76	90	70	80	69	80	61
17	72	55	36	21	35	21	22	12	52	38	62	34	51	40	72	52	89	75	93	80	72	62	87	59
18	65	50	38	25	35	30	18	12	68	33	57	47	53	41	76	60	83	77	93	75	81	61	86	71
19	64	42	41	29.5	36	28	28	15	60	38	62	38	67	41	84	60	87	75	77	67	82	63	75	54
20	72	41	31	20	39	22	46	25	59	39	51	33	64	42	83	60	85	76	81	67	84	64	64	44
21	73	48	44.5	22	22	3	45	31	50	12	42	30	62	42	82	63	89	63	82	58	88	63	71	44
22	63	52	44	28	22	− 4	43	32	34	16	52	32	77	41	86	64	90	74	87	69	89	72	61	54
23	55	45	55	28	24	3.5	44	30	19	7	64	39	43	35	88	66	95	77	88	60	90	61	60	53
24	57	39	59	40	10	− 2	30	18	29	7	62	40	47	35	88	68	93	77	90	71	93	70	70	47
25	58	47	58	37.5	22.5	5	30	13	40	25	48	31	48	36	84	70	95	68	89	77	93	78	72	60
26	69	53	45	33	25	10.5	31	21	47	33	34	22	59	35	86	68	89	71	84	71	90	72	87	60
27	63.5	44.5	41	25	27	7	30	17	41	25	48	20	67	39	86	66	84	68	79	73	86	71	89	69
28	62	46	39	19	30	9.5	25	5	39	25	61	35	61	48	78	66	84	68	83	72	80	64	86	73
29	67	48	21	4.5	37	22	19	− 4	......	......	52	40	65	49	80	61	83	71	87	72	82	67	77	57
30	61	48	30	10	43	28	34	7	......	......	57	35	65	48	82	59	82	72	88	73	82	69	64	46
31	60	45	......	......	46	38	45	18	......	......	61	39	......	......	74	52	......	......	82	76	93	74	......	......
Range	52°		58°		65°		68°.5		61°		68°		52°		43°		44°		35°		34°		52°	
Monthly means	56°.6		37°.5		29°.4		31°.1		36°.8		43°.3		54.6		67°		78°		79°		78°		69°.5	

MOBILE, ALA.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	73	56	69	55	62	40	68	51	63	36	67	50	71	63	79	67	82	71	92	79	91	75	89	69
2	76	53	65	57	66	56	62	50	64	42	65	42	79	58	78	63	86	68	92	80	93	75	89	70
3	80	53	70	49	68	53	64	45	65	41	52	31	77	54	78	55	85	72	96	76	94	75	90	72
4	81	58	68	58	66	46	61	41	65	53	48	34	80	67	75	60	90	72	97	77	93	75	91	75
5	83	63	69	60	66	45	61	41	66	53	54	34	80	68	78	62	88	74	96	79	84	74	90	76
6	85	66	70	66	64	52	46	37	72	50	60	36	79	68	71	61	86	73	97	79	78	71	91.5	73.5
7	75	70	62	57	69	46	51	34	58	43	64	42	81	68	81	66	89	71	96	78	82	70	82	71
8	83	65	62	55	68	45	56	34	65	42	65	53	80	59	84	64	85	72	98	71	88	73	85	73
9	79	71	62	56	54	40	46	40	55	40	64	56	65	46	78	65	83	71	94	72	89	76	82	72
10	77	70	68	57	40	33	51	33	65	35	65	55	70	44	83	66	82	71	93	72	94	74	77	70
11	70	58	72	61	40	33	53	30	66	52	71	56	76	50	83	65	86	73	91	76	83	73	85	67
12	71	44	72	58	41	28	61	34	65	52	65	53	71	53	81	59	80	73	94	74	88	72	87	68
13	72	48	75	62	45	26	64	42	60	42	65	43	71	46	78	66	87	74	94	78	92	74	86	71
14	66	52	70	44	56	27	67	47	70	47	68	45	67	57	85	66	90	76	95	74	87	73	80	69
15	65	42	47	32	63	41	66	55	67	56	73	49	63	57	85	72	89	74	91	75	88	72	83	63
16	73	44	46	30	62	54	63	44	75	58	66	59	71	50	86	67	87	73	89	73	90	71	81	69
17	77	54	47	31	61	52	45	33	67	48	72	54	67	47	85	69	88	75	94	73	94	73	75	71
18	78	56	......	......	62	54	36	23	71	52	73	57	70	46	85	72	87	72	94	75	89	75	73	71
19	74	56	54	32	64	51	40	19	68	62	72	60	76	50	82	66	91	75	94	75	88	72	86	72
20	76	52	59	38	66	41	59	31	68	60	68	52	76	60	83	69	91	75	86	72	87	73	86	66
21	77	64	62	35	58	34	69	50	62	50	65	43	80	59	81	66	91	76	84	72	78	70	86	61
22	74	65	59	44	45	27	69	47	59	40	71	51	84	62	86	66	95	76	75	69	84	72	81	70
23	78	62	59	36	58	39	60	47	56	42	65	55	81	63	88	72	91	75	88	73	88	72	80	73
24	72	60	67	37	58	45	60	32	55	39	76	59	66	56	92	72	95	73	87	71	90	74	80	70
25	64	57	71	47	46	37	51	31	67	53	72	51	69	51	91	71	93	71	89	70	90	76	84	68
26	73	65	67	59	42	27	56	47	72	57	54	37	71	46	89	71	91	76	90	72	90	73	84	73
27	73	53	61	47	31	18	49	39	69	50	60	38	76	52	87	69	90	75	92	73	91	73	89	75
28	75	54	60	40	45	23	47	38	64	39	68	50	85	67	82	69	86	75	92	75	88	71	86	75
29	75	54	46	33	58	39	47	30	......	......	68	52	80	71	82	71	86	74	90	76	89	75	88	74
30	71	59	......	......	59	37	40	30	......	......	70	50	82	71	88	71	90	76	87	74	92	76	80	69
31	61	56	......	......	66	48	53	35	......	......	77	63	......	......	90	70	......	......	91	74	90	73	......	......
Range	43°		45°		51°		50°		40°		46°		41°		37°		27°		29°		24°		30°.5	
Monthly means	65°.6		54°		47°.9		46°.3		56°.1		57°		65°.7		73°.9		79°.4		82°.2		80°.2		76°.1	

Maximum, minimum, and mean temperatures—Continued.

MONTGOMERY, ALA.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	72	52	65	43	60	33	65	53	61	33	51	42	76	56	70	65	81	65	94	74	93	72	92	74
2	74	49	66	54	68	55	61	55	59	40	47	39	75	55	74	61	85	67	95	77	93	76	90	74
3	80	51	68	44	66	46	59	44	69	42	46	31	81	50	71	52	81	71	94	75	95	77	91	75
4	82	54	69	42	61	38	58	36	76	56	41	25	86	62	73	55	89	70	96	78	95	75	92	77
5	84	58	69	57	64	37	56	42	67	61	49	26	88	65	77	56	91	71	97	80	88	73	93	76
6	83	61	70	62	65	50	43	33	63	48	61	32	88	65	70	61	86	70	96	77	80	71	95	74
7	76	67	66	58	67	48	48	29	58	41	66	39	85	64	81	63	89	71	96	76	87	71	89	71
8	81	58	59	53	64	45	55	32	63	48	58	49	86	62	89	63	91	74	96	76	91	73	81	71
9	82	65	59	53	53	32	45	33	51	36	65	51	62	48	85	64	81	73	92	72	93	74	76	68
10	78	67	57	53	37	27	43	30	57	31	72	50	70	40	83	67	83	71	92	73	93	75	78	70
11	69	50	69	54	40	30	48	26	66	44	75	58	73	50	81	62	89	72	94	75	89	76	85	65
12	72	43	67	56	42	28	59	30	65	48	66	46	66	49	86	57	89	72	94	74	93	74	86	66
13	75	46	77	58	44	23	64	36	62	41	62	36	68	43	84	65	90	71	93	77	93	76	87	67
14	63	46	69	40	51	24	67	40	68	51	70	40	72	53	80	62	87	71	92	76	88	74	79	65
15	66	36	50	30	56	44	70	52	65	52	76	49	69	60	86	62	87	72	93	76	88	70	82	56
16	73	41	41	27	65	54	64	42	67	54	67	53	67	50	81	65	88	74	95	76	91	70	82	64
17	77	47	43	24	58	52	42	24	65	48	65	45	61	45	87	65	88	71	95	76	92	70	80	67
18	79	50	47	30	64	50	27	16	70	49	75	47	64	44	89	69	91	71	96	78	90	74	76	71
19	74	52	51	29	68	48	32	14	65	51	67	61	73	47	87	73	92	73	89	76	88	73	81	70
20	73	48	51	34	69	38	59	28	66	58	64	47	78	50	89	69	93	73	82	71	87	71	78	62
21	75	56	56	26	45	31	64	49	66	42	62	39	82	57	82	67	95	78	86	71	86	73	81	57
22	72	63	54	41	40	21	59	34	57	35	66	41	86	54	89	67	94	75	82	72	85	72	80	63
23	77	62	56	31	51	30	57	41	52	35	69	47	80	63	91	72	94	74	84	71	90	70	73	69
24	73	60	62	33	55	42	42	32	49	31	77	57	68	52	95	74	85	74	88	72	93	74	74	66
25	77	60	69	37	47	37	45	24	46	37	78	48	65	47	93	72	93	71	89	72	92	74	81	64
26	72	55	68	50	40	24	52	40	69	45	48	35	68	42	91	70	89	76	92	73	96	72	86	64
27	72	49	60	45	32	19	43	36	63	44	59	32	78	45	94	71	88	73	93	76	90	70	84	73
28	75	47	58	36	38	21	46	32	57	35	56	46	80	65	87	68	92	75	92	75	90	70	85	71
29	69	51	45	27	48	29	37	30	......	......	67	48	73	60	85	70	87	73	92	73	90	70	89	71
30	66	50	41	21	56	34	41	32	......	......	80	44	75	63	86	67	88	71	87	73	90	70	80	66
31	59	51	......	......	70	37	55	39	......	......	73	59	......	......	89	69	......	......	85	74	93	75	......	......
Range	48°		56°		51°		56°		45°		55°		48°		43°		30°		26°		26°		39°	
Monthly means	63°.3		50°.2		45°.5		44°.1		53°.3		52°.1		64°.2		67°.1		79°.2		81°.8		80°.2		75°.0	

MONTREAL, CANADA.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	69	51	45	42	36	12	20	2.5	3	−5	40	28	49	31	71	45	71	48	75	73	74	67	78	56
2	59	47	42	40	35	24	19	14	12	−10	40	22	42	33	46.5	38	75	48	81	66	81	64	78	56
3	52	44	41	36	34	27	37	34	22	6	32	18	41	34	48	35	70	49	82	67	75	64	76	53
4	69	43	48	32	33	21	37	30	37	20	30	11	52	32	65	35	68	50	82	69	73	60	64	57
5	68	41	54	31	26	21	29	23	27	13	30	7	44	30	68	41	72	54	86	66	78	58	74	60
6	77	54	48	39	34	20	20	4	44	18	38	10	41	34	69	36	72	54	80	61	82	64	70	51
7	58	57	47	40	21	12	4	−6	27	17	41	20	37	32	71	39	70	54	82	58	78	64	62	45.5
8	55	49	45	34	34	24	20	−2	31	16	38	35	44	34	71	41	73	54	80	61	82	65	73	50
9	73	43	51	33	32	8	24	12	15	10	31	23	40	32	61	46	77	55	78	57	80	66	74	48
10	55	50	52	32	13	2	15	3	13	−5	45	21	46	35	60	49	84	57	80	58	78	58	71	52.5
11	50	37	45	31	8	0	14	−2	8	−2	33	21	54	34	57	49	74	63	78	62	80	59	81	56
12	54	32	47	39.5	9	0	15	−2	22	7	43	25	45	35	64	46	69	53	75	54	79	60	83	60
13	49	40	46	30	17.5	7	15	−10	21	−4	44	23	42	38	52	44	73	52	80	57	82	59	69	65
14	42	35	39	32	36	22	31	16	16	−5	45	30	39	34	48	37	74	57	90	68	81	58	62	46
15	43	38	36	27	34	21	20	−6	26	−1	35	27	55	35	58	35	76	58	86	70	75	61	62	43
16	47	37	35	28	27	11	41	24	24	5	35	27	57	33	61	44	76	60	74	58	80	65	68	50
17	54	32	36	23.5	31	20	29	17	43	15	39	20	47	35	60	42	70	54	69	58	81	56	52	40
18	51	47	34	25	25	16	11	6	38	18	34	21	40	36	64	44	70	50	64	57	78	59	64	42
19	50	39	33	26	28	12	16	12	40	29	37	24	45	35	69	49	74	50	72	58	74	59	68	61
20	51	34	27	23	25	15	22	8	35	21	40	25	46	37	71	43	72	64	70	56	80	58	70	44
21	66	35	31	11	23	12	22	16	14	11	36	23	52	29	66	48	69	56	78	60	82	62	70	40.5
22	70	48	36	25	16	6	32	22	25	10	37	23	53.5	30	70	48	65	50	82	62	80	69	65	44
23	60	46	35	28	13	−2	15	3	12	4	37	24	47	30	77	56	74	52	83	65	72	62	59	50
24	60	36	38	32	−1	−15	9	−2	20	−3	27	4	54	35	75	60	81	59	86	69	77	49	68	52
25	59	35	48	34	0	−18	26	8	28	13	20	6	55	35	80	57	82	57	80	61	78	52	60	48
26	46	43	33	27	−3	−13	20	8	42	24	21	17	49	35	80	57	83	65	79	70	77	52	67	52
27	48	44	34	25	6	−2	15	13	37	17	29	15	61	37	82	64	85	64	79	68	80	52	85	55
28	56	31	29	18	7	−6	24	14	40	26	36	12	62	40	80	65	81	70	86	62	82	55	80	66
29	57	31	28	23	3	−13	−2	−15	......	......	36	32	69	37	70	53	84	64	80	68	85	58	71	67
30	56	32	16	10	6	−13	6	−10	......	......	41	34	71	41	65	41	82	71	84	66	83	64	65	40
31	47	35	......	......	5	−10	31	8	......	......	36	30	......	......	73	43	......	......	86	69	80	63	......	......
Range	42°		44°		54°		56°		54°		41°		42°		47°		37°		36°		36°		45°	
Monthly means	47°.5		41°.3		13°.8		14°.8		18°.4		28°.6		42°.1		57°.2		66°.9		71°.3		69°.5		60°.2	

Maximum, minimum, and mean temperatures—Continued.

MOUNT WASHINGTON, N. H.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	39	33	24	19	8	2	7	1	4	−7	12	4	22	16	25	22	42	31	58	50	54	43	45	38
2	33	24	22	17	23	8	20	3	−5	−10	6	4	32	19	32	24	36	28	57	50	55	46	38	33
3	29	24	22	15	23	15	27	21	7	−6	9	4	26	17	25	19	41	27	57	50	54	44	47	29
4	27	24	20	13	15	10	22	9	20	7	8	−1	19	16	24	20	48	36	57	49	44	36	55	38
5	38	22	30	17	14	7	32	10	12	6	14	2	26	17	23	20	45	37	63	50	45	36	52	37
6	51	38	30	23	16	9	32	6	14	7	15	8	28	24	22	19	43	38	53	39	47	40	35	27
7	47	44	29	20	11	5	12	4	19	11	23	12	32	27	32	19	37	35	60	32	49	44	40	31
8	45	32	22	18	19	3	19	10	19	12	32	19	32	30	36	23	41	33	52	40	47	37	34	30
9	38	30	20	17	19	11	19	3	14	−2	19	9	33	31	29	24	48	34	55	40	43	31	40	28
10	44	26	22	17	11	−8	4	−6	−1	−7	12	7	31	23	38	28	54	39	53	40	40	32	45	31
11	26	16	37	22	−1	−9	−4	−11	10	−4	14	5	30	22	38	32	49	39	45	36	46	35	48	32
12	26	12	32	29	10	−3	−1	−13	12	−2	14	9	25	16	33	29	39	32	55	30	45	38	56	43
13	24	18	29	20	6	−2	23	−11	10	0	13	7	20	14	34	26	45	32	52	37	45	35	56	40
14	28	22	27	19	9	3	22	7	16	2	12	10	20	19	26	19	44	36	57	50	47	36	44	23
15	22	18	27	14	12	7	12	7	13	1	16	10	23	17	25	19	52	39	54	43	54	44	37	20
16	24	18	19	11	13	5	32	11	21	10	20	7	26	18	29	24	56	40	45	30	51	46	36	23
17	30	17	13	9	13	8	32	26	21	10	7	2	24	18	27	23	40	30	41	35	50	30	35	18
18	33	29	13	11	12	4	27	16	23	9	15	6	20	15	26	22	44	29	35	33	51	34	51	30
19	30	19	15	12	10	−2	16	3	23	9	15	13	26	20	26	23	54	42	50	35	52	35	50	36
20	20	14	16	10	18	2	14	3	14	6	21	9	24	18	34	25	53	34	46	34	52	39	40	20
21	36	19	15	9	13	0	18	10	19	7	16	9	24	16	33	28	36	30	41	38	57	45	26	18
22	41	36	20	14	1	−9	16	6	13	−3	10	7	20	17	36	32	38	32	49	38	53	47	41	25
23	39	27	20	14	−2	−7	12	3	−3	−12	13	6	21	14	43	36	43	36	54	46	52	30	41	24
24	38	24	22	17	−7	−22	13	5	−4	15	10	2	26	19	41	35	41	35	50	42	37	24	43	31
25	41	32	28	20	−10	−22	10	−1	5	−5	20	5	23	20	42	35	42	35	55	40	42	30	46	34
26	41	36	20	16	16	−10	10	2	9	0	32	17	22	20	47	36	59	36	55	51	43	34	48	33
27	42	29	17	11	16	−11	15	8	16	17	19	6	21	19	50	44	50	44	52	47	45	31	57	42
28	29	21	13	1	−11	−24	8	−1	12	6	18	8	24	19	49	41	49	41	53	43	49	35	53	50
29	28	20	13	2	−8	−18	1	−7	......	......	31	18	29	21	42	39	58	46	53	45	54	44	53	39
30	30	24	10	−1.5	−1	−11	8	−3	......	......	31	18	30	23	40	24	55	51	54	47	53	40	43	19
31	27	24	......	......	4	−2	4	−1	......	......	22	17	.....	......	33	18	......	......	53	44	51	42		
Range	39°		38°.5		47°		45°		38°		33°		19°		32°		32°		33°		33°		39°	
Monthly means	29°.6		18°.5		3°.8		10°.1		7°.3		12°.4		22°.6		30°.4		42°.9		47°.1		44°.3		38°.1	

Maximum, minimum, and mean temperatures—Continued.

MORGANTOWN, W. VA.

Day of month.	1872.						1873.																			
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	......	......	......	......	......	......	......	......	34	14	32.5	25	60	32.5	64	55	76	45	81	67	81	64	90	62
2	......	......	......	......	......	......	......	......	27.5	14	33	24.5	59	37	72	55	80	48	86	64	84	69	78	59
3	......	......	......	......	......	......	......	......	49	13.5	......	......	65	35	57	44	84	54	85	67	76	67	83	57
4	......	......	......	......	......	......	......	......	60.5	44	15	1.5	77	40	60	43	86	63	84	67	76	59	81	67
5	......	......	......	......	......	......	......	......	48.5	30	22	0.5	84	57	68	38	76	61	82	67	77	57	80	60
6	......	......	......	......	......	......	......	......	50.5	29.5	46	5	84	64	74	48	81	54	71	61	80	58	72	54
7	......	......	......	......	......	......	......	......	53	28	58	29	82	58.5	63	53	73	58	76	65	83	60	74	52
8	......	......	......	......	......	......	......	......	47	31	53	46.5	83	54	64	52	77	49	72	64	85	67.5	70	52
9	......	......	......	......	......	......	......	......	20.5	16	60	36.5	68	43.5	75	54	79	54	76	62	81	66	74	46
10	......	......	......	......	......	......	......	......	40.5	11	50	32	58	38	70	57	71	58	79	57	79	59	77	52
11	......	......	......	......	......	......	......	......	45	36	49	32	66	37	65	52	70	61	74	58	81	58	80	53
12	......	......	......	......	......	......	......	......	38	30	36	30	45.5	38	67	46	74	52	79	52	84	63	83	55
13	......	......	......	......	......	......	......	......	30	24.5	45	32	57	39	72	50	78	51	83	64	75	64	74	48
14	......	......	......	......	......	......	......	......	35	23	55	31	61.5	34.5	60	41	74	56	83	67	72	61	67	39
15	......	......	......	......	......	......	......	......	41	14.5	73	38	66	33	68	47	80	64	78	67	77	60	70	39
16	......	......	......	......	......	......	......	......	43	37	44	30	56	40	65	50	87	62	83	68	75	64	74	53
17	......	......	......	......	......	......	......	......	44	31	47	22	48	39	64	39	83	62	87	68	75	62	74	55
18	......	......	......	......	......	......	......	......	62	28	53	30	46	39	67	39	84	50	84	68	77	65.5	80	52
19	......	......	......	......	......	......	......	......	53	34	56	37	55	41	72	52	85	72	78	58	76	61.5	69	46
20	......	......	......	......	......	......	......	......	48	27	48	30	56	32	72	52	85	62	76	54	80	60	55	40
21	......	......	......	......	......	......	......	......	43	25	33	26	51	40.5	71	55	84	52	75	57	84	63	64	35
22	......	......	......	......	......	......	......	......	26.5	20	38	27	52	38	80	58	88	57	79	56	85	68	69	44
23	......	......	......	......	......	......	......	......	21	2.5	59	26	36.5	32.5	85	62	88	66	82	58	86	64	62	49
24	......	......	......	......	......	......	......	......	22	−3	43	36	46	34.5	81	64	82	68	83	62	76	59	66	50
25	......	......	......	......	......	......	[a]25.5	17	31	19.5	60	38	42.5	35	83	55	71	65	86	64	79	58	68	55
26	......	......	......	......	......	......	34.5	22.5	40.5	16	51	20	53	35	86	62	80	53	82	69	75	67.5	79	54
27	......	......	......	......	......	......	33	......	38	19	35	20.5	58	41	84	64	83	59	81	67	80	64	83	56
28	......	......	......	......	......	......	24	9.5	29	21	62	26	52	38	77	58	80	68	65	66	76	65	56	51
29	......	......	......	......	......	......	10	−9	......	......	51	37	58	45	79	54	85	66	82	66	80	59	77	58
30	......	......	......	......	......	......	33	−6	......	......	53	38	64	35	73	53	83	67	82	63	81	62	61	41
31	......	......	......	......	......	......	36.5	9	......	......	52	35	......	......	71	48	......	......	86	64	82	62	......	......
Range	......	......	......	......	......	......	......	......	65°		72°.5		52°		48°		43°		35°		29°		55°	
Monthly means	......	......	......	......	......	......	......	......	32°.8		38°.3		50°.2		61°.5		70°.6		71°.2		70°.6		62°.8	

[a] Station opened January 25, 1873.

Maximum, minimum, and mean temperatures—Continued.

NEW HAVEN, CONN.

Day of month.	1872.						1873.																	
	October.		November.		December.*		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	......	......	......	......	......	......	29	12	31	13	38	27	50	39	69	44	75	46	75	67	85	70	84	67
2	......	......	......	......	......	......	25	2	19	6	38	23	44	38	53	39	77	55	86	66	87	70	75	60
3	......	......	......	......	......	......	38	25	37	10	33	14	55	36.5	41	35	63	50	85	67	90	67	74	58
4	......	......	......	......	......	......	43	26	47	32	20	10	48.5	36	61	36	70	53	88	68	80	66	79	62
5	......	......	......	......	......	......	36	18	43	28	25	9	45	34	72	46	82	60	83	69	78	60	85	65
6	......	......	......	......	......	......	37	22	41	24	35	13	42	37	60	45	82	56	75	62	79	59	67	53
7	......	......	......	......	......	......	29	11	37	24	43	22	50	35	63	37	74	58	75	55	84	66	68	48
8	......	......	......	......	......	......	31	10	46	33	46	29	58	40	53	42	69	52	75	60	83	69	68	56
9	......	......	......	......	......	......	26	21	37	7	45	29	49	41	52	44	75	52	79	58	80	63	68	50
10	......	......	......	......	*23	15	26	10	19	5	38	23	56	40	60	46	80	54	78	62	77	60	67	48
11	......	......	......	......	27	16	16	2	38	19	45	29	56	37	55	50	82	59	75	62	77	60	71	58
12	......	......	......	......	22	12	24	6	34	25	43	31	42	32	64	51	73	59	75	57	76	60	73	54
13	......	......	......	......	33	14	41	17	22	15	38	26	47	33	69	44	71	51	77	57	76	58	73	59
14	......	......	......	......	25	39	47	31	26	9	45	31	50	38	61	41	73	48	86	64	65	61	62	45
15	......	......	......	......	47	26	25	17	33.5	19	43	33	52	38	64	43	75	49	91	72	73	59	58	39
16	......	......	......	......	33	18	46	21	35	24	50	34	52	37	64	46	83	60	81	66	82	63	71	51
17	......	......	......	......	32	22	49	32	42.5	31	38	30	44	37	63	52	80	64	73	64	75	60	64	47
18	......	......	......	......	28	19	33	24	36	24	42	27	47	36	64	47	74	55	67	58	65	59	72	48
19	......	......	......	......	33	22	28	19	45	34	49	34	50	37	69	43	91	60	......	......	77	59	68	57
20	......	......	......	......	37	24	35	13	33	25	39	32	56	37	63	45	89	69	78	64	75	64	61	45
21	......	......	......	......	35	23	40	32	33	20	38	30	44	37	60	45	79	62	78	60	68	63	61	40
22	......	......	......	......	23	5	38	26	22	14	43	30	48	35	67	47	74	56	81	62	78	65	62	39
23	......	......	......	......	29	1	29	16	18	6	45	26	53	38	73	56	69	58	87	63	85	63	68	50
24	......	......	......	......	14	2	21	14	18	2	30	24	56	37	79	56	65	56	91	69	67	51	70	60
25	......	......	......	......	12	−2	28	17	33	14	25	18	52	34	77	61	73	51	84	66	73	55	66	57
26	......	......	......	......	13	−2	27	10	36	22	35	24	49	37	76	56	77	50	87	71	77	58	72	61
27	......	......	......	......	14	3	27	18	32	21	32	21	53	37	70	53	80	57	85	71	72	60	76	55
28	......	......	......	......	28	−5	33	21	36	29	42	24	63	38	80	58	87	64	80	70	76	58	77	62
29	......	......	......	......	27	15	22	−3	......	......	48	37	63	45	82	65	80	65	83	72	72	58	76	67
30	......	......	......	......	24	7	21	−14	......	......	46	38	63	47	70	54	80	67	88	70	78	65	71	45
31	......	......	......	......	32	14	32	10	......	......	48	36	......	......	65	43	......	......	86	67	82	63	......	......
Range	......	......	......	......	......	......	63°		45°		41°		31°		47°		45°		36°		39°		46°	
Monthly means	......	......	......	......	......	......	24°.7		26°.9		32°.2		44°.2		55.°9		67°		72°3		69°		62°.7	

* Station opened December 10, 1872.

Maximum, minimum, and mean temperatures—Continued.

NEW YORK CITY.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	69	55	60	45	36	16	36	22	31	19	44	27	54	34	64	42	74	50	81	68	85	72	87	69
2	64	48	62	40	46	30	37	19	28	2	33	22	64	60	54	41	82	50	86	68	85	71	79	64
3	65	51	48	42	44	30	46	30	37	10	38	21	64	38	43	38	65	50	94	70	89	72	77	62
4	70	51	54	40	42	33	41	29	50	35	31	22	54	39	65	38	75	53	85	71	88	67	83	63
5	64	53	51	40	40	28	45	24	42	31	39	11	50	36	69	44	86	60	79	70	82	66	86	70
6	64	53	53	50	44	30	40	24	41	27	34	13	44	36	61	48	82	62	80	68	81	65	73	61
7	75	61	58	46	42	31	31	17	41	30	39	21	51	36	62	46	77	61	75	60	84	64	70	56
8	71	61	57	43	44	35	36	23	45	33	47	......	55	40	50	43	72	54	74	65	82	70	73	59
9	70	53	56	39	40	15	32	29	40	11	......	......	50	32	50	42	81	55	78	64	80	66	70	59
10	65	46	57	37	26	14	26	19	31	11	34	26	60	39	58	44	82	60	79	67	80	67	67	56
11	72	51	51	40	32	19	15	8	40	19	46	32	60	42	56	41	81	66	78	64	78	68	71	60
12	59	43	59	40	31	12	28	2	40	25	43	24	45	32	......	......	78	61	76	60	78	64	76	58
13	58	40	51	40	33	12	45	22	33	15	45	27	50	32	73	50	70	57	78	64	78	62	76	59
14	53	43	56	47	41	......	50	33	29	14	50	30	51	38	58	42	71	55	88	65	67	63	66	51
15	56	41	45	32	47	30	34	24	34	20	47	35	54	40	65	43	70	60	89	......	72	62	62	45
16	65	46	43	30	42	28	52	29	37	25	46	32	46	36	65	42	83	64	80	70	81	66	74	54
17	58	42	43	24	39	28	54	31	49	32	46	30	40	31	65	49	84	68	80	68	75	63	70	......
18	60	55	41	30	39	27	......	......	50	27	48	31	38	44	56	42	74	63	75	61	69	63	75	55
19	63	45	41	30	38	26	30	15	42	36	52	41	50	40	67	49	91	69	72	61	78	65	70	58
20	53	36	43	30	41	25	36	22	42	31	......	......	55	32	60	48	90	73	78	64	76	68	63	51
21	66	43	35	25	36	26	39	33	37	27	41	27	46	39	56	48	82	65	80	63	74	67	61	47
22	69	43	40	32	20	2	40	33	30	14	43	30	39	34	63	48	69	60	83	55	81	66	64	52
23	66	49	44	33	38	6	33	24	21	5	51	31	54	34	72	54	67	50	86	66	89	68	70	58
24	51	43	48	33	17	10	34	20	21	−4	38	25	53	......	82	56	63	59	90	70	71	55	70	58
25	56	49	48	33	22	5	29	17	36	13	34	21	44	38	81	58	72	50	90	74	74	56	66	60
26	63	50	46	30	22	5	27	14	41	26	39	20	50	38	76	58	75	59	90	72	78	65	78	54
27	67	51	50	35	22	6	30	23	32	26	38	21	55	37	68	55	80	58	78	69	78	63	77	56
28	62	45	36	26	23	8	29	22	37	25	46	19	60	40	82	60	87	65	81	69	72	62	76	63
29	55	42	35	15	25	14	22	0	......	......	50	38	56	45	80	68	87	66	84	71	76	63	78	67
30	52	40	35	11	28	18	20	2	......	......	53	38	......	44	72	58	80	68	90	70	80	66	62	52
31	54	40	......	......	38	19	31	2	......	......	51	41	......	......	64	51	......	......	88	70	84	66	......	......
Range	39°		51°		45°		54°		54°		42°		33°		44°		41°		39°		34°		42°	
Monthly means	54°.1		40°.8		27°.7		28°.5		29°.3		35°.7		46°.3		57°.6		68°.9		73°.9		71°.4		65°.4	

Maximum, minimum, and mean temperatures—Continued.

OMAHA, NEBR.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	......	......	......	......	......	......	29	17	4	−11	36	23	47	34	51	41	74	51	78	64	85	70	80	63
2	......	......	......	......	......	......	29	20	24	−4	26	4	65	29	55	42	79	65	84	65	75	62	82	55
3	......	......	......	......	......	......	28	12	43	15	22	−3	74	43	64	40	70	87	91	66	78	53	90	67
4	......	......	......	......	......	......	29	9	40	19	34	5	65	48	66	44	77	55	94	65	81	59	75	61
5	......	......	......	......	......	......	23	9	46	28	57	23	54	40	72	51	83	56	68	64	85	70	72	45
6	......	......	......	......	......	......	28	12	52	28	65	42	50	33	72	53	85	61	83	64	90	68	70	53
7	......	......	......	......	......	......	39	6	45	32	59	39	40	30	66	54	83	63	81	69	85	68	63	45
8	......	......	......	......	......	......	11	−2	38	18	59	32	36	25	56	45	76	68	81	60	84	70	70	43
9	......	......	......	......	......	......	5	−9	50	25	40	33	51	27	54	39	72	57	86	68	87	72	78	52
10	......	......	......	......	......	......	15	−11	43	30	55	39	56	38	65	39	77	53	77	63	89	70	80	58
11	......	......	......	......	......	......	......	......	35	20	42	32	50	31	75	37	82	57	77	62	89	71	91	65
12	......	......	......	......	......	......	41	25	32	11	50	22	65	35	86	44	83	62	66	64	80	70	67	50
13	......	......	......	......	......	......	37	23	36	22	62	32	62	50	74	45	85	62	91	66	89	76	60	39
14	......	......	......	......	......	......	35	21	49	22	70	47	56	32	68	43	88	69	87	75	91	76	77	45
15	......	......	......	......	......	......	36	2	48	34	49	33	40	30	53	41	87	65	92	73	85	60	73	55
16	......	......	......	......	......	......	6	−8	49	29	56	24	42	33	56	46	88	65	92	74	75	53	71	51
17	......	......	......	......	......	......	9	−18	57	34	67	43	58	33	61	49	90	66	82	69	84	54	88	64
18	......	......	......	......	......	......	22	−3	53	21	57	33	61	34	60	51	90	66	70	57	90	60	55	44
19	......	......	......	......	......	......	43	14	46	17	52	25	57	33	56	47	83	63	80	51	90	64	60	35
20	......	......	......	......	......	......	46	28	39	0	41	17	58	42	72	43	87	64	81	54	86	67	65	57
21	......	......	......	......	......	......	41	31	32	−3	42	26	70	43	75	56	......	......	83	58	79	62	65	56
22	......	......	......	......	......	......	37	14	......	......	72	32	50	30	76	56	80	67	87	64	87	69	67	45
23	......	......	......	......	......	......	17	2	16	−2	35	15	44	30	74	53	85	73	92	67	89	64	74	50
24	......	......	......	......	......	......	15	−5	22	1	36	18	39	26	79	57	80	69	94	71	90	67	55	47
25	......	......	......	......	......	......	20	3	35	8	20	2	54	27	68	50	90	74	84	67	87	71	69	38
26	......	......	......	......	......	......	24	6	37	10	31	2	60	34	75	58	92	78	83	62	87	64	69	52
27	......	......	......	......	......	......	15	−9	22	6	55	23	58	34	74	53	93	72	84	64	88	64	71	52
28	......	......	......	......	......	......	−6	−20	28	3	53	36	66	45	82	63	......	......	81	62	92	69	63	41
29	......	......	......	......	*30	12	17	−11	......	......	61	28	66	43	85	61	76	61	88	65	90	70	53	30
30	......	......	......	......	33	21	35	11	......	......	56	38	59	47	63	51	85	59	86	63	98	73	66	43
31	......	......	......	......	24	3	26	−7	......	......	59	35	......	......	68	49	......	......	......	......	90	70	......	......
Range	......	......	......	......	......	......	66°		68°		75°		49°		49°		42°		43°		45°		61°	
Monthly means	......	......	......	......	......	......	16°.9		26°.9		38°.2		44°.2		59°		74°.4		75°.7		77°.1		60°.6	

* Station supplied with a self-registering maximum and minimum thermometer December 29, 1872.

Maximum, minimum, and mean temperatures—Continued.

OSWEGO, N. Y.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	......	......	......	......	*35	25	34	24	26	7	33.5	22	49	31	59	40	77	48.5	80	68	80	67.5	77	61
2	......	......	......	......	44	28	37	20	26	6	34	27	50.5	38.5	55	38	66	48	88	65	87	68	72	61
3	......	......	......	......	39	33	46	35	35	8.5	29	7	43.5	30.5	42	36	81.5	54	80	70	77.5	61	79	54
4	......	......	......	......	36	32	38	26	45	32	18.5	5	43.5	33	59	35	85.5	56	82	63	79	61	78	63
5	......	......	......	......	38.5	32	34	25	35	23	24	8.5	48	35	60	41	73	50.5	78	58	76	55	74	58
6	......	......	......	......	37	27	31	23	45	23	33.5	2	49	38	61.5	38	73	48	68	53	82	55.5	60.5	46.5
7	......	......	......	......	39	28	25	18	......	......	49	22	52.5	35	66	42	58.5	48	73	50	79	68	66	45
8	......	......	......	......	44	35	35	19	39.5	24	49	30	45	35	60	51	66	46	80	58	80	61	64.5	51
9	......	......	......	......	38	11	27.5	14.5	25	8.5	33	20	54	36	62.5	46	74	51	72	57	78	66	70.5	46
10	......	......	......	......	22	12.5	13	6.5	17	5	38	23.5	51	36.5	63.5	50	85	54	75	54.5	72	56	73	55
11	......	......	......	......	22	16.5	18	6.5	40.5	13	45	31	60	38	56	41	68.5	49	70.5	56	78.5	55	77	55
12	......	......	......	......	19	10	23	16	30	14	36.5	29	51	39	64.5	41	65	48	72	53	74	60	83	60
13	......	......	......	......	29	28	44.5	22	15.5	4	39	24	45	36	61	38	83.5	47	86	58	69	52.5	74	51
14	......	......	......	......	35	31	43.5	19.5	30	4.5	40	29	45	35	50	35.5	84	57	86	71	73	56	53	48
15	......	......	......	......	41	25	47	18	32.5	22	45.5	34	51	36	51	38	79	61	83	65	71.5	56.5	62	43
16	......	......	......	......	34	23.5	52	37	41	27	47	29	58	36.5	56	46	80	61	76	61	73	58	62	53
17	......	......	......	......	32	20	52	12	33	25	36	28.5	50	36	53.5	41.5	72	52	83	66	71	53	60	44
18	......	......	......	......	31	16	17	10.5	41.5	17	41	28	49	37	61	43	83.5	50	86	62	68.5	58	80	57.
19	......	......	......	......	30	25	20	10	45	32	46	32.5	45	35	63	45	89	68	73	56	75	58	72	53
20	......	......	......	......	41	27	34	9	33	20	41	37.5	41.5	32	73.5	50	81	52	64	50	81	56.5	......	......
21	......	......	......	......	28	22	36	22.5	32	18	41	37.5	43	30	62.5	50	70	50	75	60	81	61.5	60	47
22	......	......	......	......	23	2.5	35.5	22	19	12.5	34	27.5	43	31.5	77	50	71.5	53	86	58	81	65	66	44
23	......	......	......	......	22	9	22	8	15	3	40	20	41	29	83.5	59	78.5	54	86	65	74	52	61	53
24	......	......	......	......	12	− 1	22	11	20	5	22	9	45	34	......	......	82	63	78	66	62	50	63	43
25	......	......	......	......	8.5	− 4.5	21.5	14.5	29.5	23.5	31	17	45	33	65.5	48	76	57	88	64	69	54	67	53
26	......	......	......	......	8	2	27	16.5	31.5	21	37	19	42.5	34	82	53.5	88	57	79.5	66	70	51	71	53
27	......	......	......	......	13	5	29	19.5	37	23	29	12	50	34.5	86.5	64	86	64	78	67	71	52.5	83	60
28	......	......	......	......	24	8	26	5	30	24	47.5	14.5	52.5	37	75	54	80	63	83.5	63	72	57	85	66
29	......	......	......	......	23	17	11	− 2	......	......	44	33	55	35.5	82	47	79.5	64	85	64	82.5	55.5	75	56
30	......	......	......	......	28	15	24	− 4	......	......	36.5	31	55	40	52	41	90	68	80	68	82	60	56	43
31	......	......	......	......	29	20	29	24	......	......	45	31	......	......	65	40.5	......	......	86.5	64	75	62	......	......
Range	......		......		48°.5		56°		42°		47°		31°		51°.5		44°		38°		37°		42°	
Monthly means	......		......		23°.9		23°.7		24°.3		30°.2		42°.6		53°.1		65°.3		70°.4		66°.2		60°.8	

* Station supplied with self-registering maximum and minimum thermometers December 1, 1872.

Maximum, minimum, and mean temperatures—Continued.

PEMBINA, DAK.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	.....	.....	*36	30	15	5	.....	.....	.....	.....	.....	−12	.....	27	.....	33	.....	56	71	48	73	43	72.5	44
2	.....	.....	40	30	25	11	14	22	.....	.....	.....	−25	.....	32	.....	32	.....	50	82	59	72.5	58	69.5	45
3	.....	.....	41	31	12	− 1	11	− 8	.....	.....	.....	−40	.....	20	.....	38	.....	47	76	51	74.5	46.5	67	53
4	.....	.....	42	30	14	4	− 3	−26	.....	.....	.....	−20	.....	35	.....	33	.....	49	63	55	86	62	64	43
5	.....	.....	41	34	24	9	− 2	−36	.....	.....	.....	5	.....	31	.....	46	.....	49	65	39	86.5	69	57	33
6	.....	.....	37	26	19	10	15	− 1	.....	.....	.....	9	.....	30	.....	44	.....	57	76	38	80	59	53	41
7	.....	.....	40	31	36	10	10	−10	.....	.....	.....	0	.....	22	.....	41	.....	58	66	50	73	50.5	60	34
8	.....	.....	40	26	10	−16	−15	−22	.....	.....	.....	− 6	.....	20	.....	32	.....	49	70	40	81	63	69	40
9	.....	.....	55	34	3	−10	− 9	−23	.....	.....	.....	9	.....	18	.....	32	.....	46	69	48	82.5	57	69	42.5
10	.....	.....	34	17	14	− 3	− 1	−22	.....	.....	.....	11	.....	23	.....	31	.....	44	69	34	82	53	74.5	50
11	.....	.....	26	10	11	−21	24	− 3	.....	.....	.....	− 3	.....	18	.....	29	.....	41	82.5	48	80	50	56	41
12	.....	.....	22	2	(†)	.....	18	8	.....	.....	.....	−10	.....	31	.....	33	.....	60	85	61	80	61	49	39
13	.....	.....	21	3	.....	.....	8	− 4	.....	.....	.....	12	.....	34	.....	23	.....	55	76	53	83.5	67	57	30
14	.....	.....	23	13	.....	.....	(†)	.....	.....	.....	.....	28	.....	18	.....	31	.....	50	73	46	74	57	66	38
15	.....	.....	24	18	.....	.....	.....	.....	.....	.....	.....	15	.....	19	.....	43	.....	49	78	58	67	49	52	34
16	.....	.....	28	12	1	−34	.....	.....	.....	.....	.....	2	.....	21	.....	47	.....	46	75	63	74	54	58	25
17	.....	.....	17	2	0	−34	.....	.....	‡	10	.....	14	.....	27	.....	44	.....	67	73	55	73	48	50	35
18	.....	.....	17	− 1	− 7	−36	.....	.....	.....	− 1	.....	15	.....	28	.....	43	.....	60	74	48	77	56	49	32
19	.....	.....	14	− 3	−11	−34	.....	.....	.....	− 6	.....	−10	.....	24	.....	45	.....	55	81	54	76	47	52	25.5
20	.....	.....	16	− 7	−19	−40	.....	.....	.....	−30	.....	−12	.....	20	.....	47	.....	45	82	54	75	55	51	32.5
21	.....	.....	27	10	− 6	−41	.....	.....	.....	−32	.....	− 8	.....	19	.....	48	.....	58	84	63.5	66	41	51	38
22	.....	.....	32	22	− 6	−34	.....	.....	.....	−29	.....	− 2	.....	20	.....	52	.....	58	79	59	66.5	35	57.5	38
23	.....	.....	27	13	−24	−42	.....	.....	.....	−11	.....	−12	.....	22	.....	54	.....	55	78	46	74	53	63	29
24	.....	.....	19	6	−15	−51	.....	.....	.....	4	.....	− 6	.....	21	.....	54	.....	49	79	62	67	52	51	41
25	.....	.....	16	− 1	−11	−33	.....	.....	.....	3	.....	−13	.....	27	.....	50	.....	63	82	56	67	45	54	39
26	.....	.....	14	−24	−20	−38	.....	.....	.....	14	.....	−19	.....	24	.....	46	.....	63	81	48.5	72	47.5	34	36
27	.....	.....	− 6	−30	(†)	.....	.....	.....	.....	0	.....	10	.....	28	.....	49	79	53	77	54	74	54	44	31
28	.....	.....	− 4	−22	.....	.....	.....	.....	.....	−15	.....	12	.....	30	.....	45	77	66	72.5	53	74	57.5	42	32
29	.....	.....	10	−16	.....	.....	.....	.....	.....	.....	.....	3	.....	31	.....	36	76	56	70.5	46	74	48	44	23.5
30	.....	.....	22	6	.....	.....	.....	.....	.....	.....	.....	−20	.....	36	.....	34	70	55	73	53	69	39	41	30
31	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	−13	.....	.....	.....	43	.....	.....	73	53	74	48	.....	.....
Range	.....		85°		.....		.....		.....		.....		.....		.....		.....		51°		52°		51°	
Monthly means	.....		.....		.....		.....		.....		12°.9		33°.9		52°.3		66°.1		65°.2		64°.4		46°.8	

* Station opened November 1, 1872. † No observations taken. ‡ Maximum thermometer broken.

Maximum, minimum, and mean temperatures—Continued.

PUNTA RASSA, FLA.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	87	72	80	66	71	44	76	59	68	52	73	53	......	67	......	72	......	72	......	79	......	75	......	78
2	83	70	83	68	75	57	74	61	74	56	76	63	......	71	......	76	......	72	......	76	......	73	......	78
3	83	69	75	62	76	59	76	64	74	61	65	50	......	70	......	69	......	72	......	77	......	74	......	76
4	86	71	82	62	77	58	80	65	76	62	53	44	......	67	......	63	......	73	......	76	......	74	......	76
5	85	73	78	70	75	59	75	66	......	......	62	38	......	70	......	64	......	73	......	75	......	74	......	77
6	86	73	83	69	80	60	66	58	......	......	68	44	......	65	......	69	......	76	......	75	......	76	......	72
7	85	73	83	70	76	61	68	56	......	......	68	48	......	65	......	64	......	76	......	77	......	72	......	73
8	88	74	82	72	72	59	62	53	70	54	70	52	......	66	......	67	......	74	......	76	......	74	......	74
9	87	74	79	73	69	58	69	50	63	52	72	55	......	70	......	68	......	73	......	73	......	75	......	73
10	87	73	79	70	71	49	65	50	69	47	72	55	......	67	......	71	......	72	......	73	......	75	......	74
11	85	72	83	68	74	62	58	41	74	57	75	58	......	68	......	73	......	75	......	77	......	74	......	77
12	85	71	80	67	57	43	66	45	70	65	72	59	......	67	......	71	......	75	......	77	......	75	......	75
13	84	73	79	65	60	35	72	54	71	63	75	63	......	57	......	66	......	76	......	74	......	77	......	76
14	81	64	82	68	71	46	76	56	79	61	73	58	......	61	......	71	......	79	......	73	......	81	......	76
15	80	58	76	54	76	55	78	62	79	65	76	59	......	67	......	77	......	80	......	71	......	77	......	75
16	82	62	57	43	78	60	71	62	85	69	74	59	......	69	......	75	......	78	......	75	......	77	......	74
17	84	67	66	42	77	63	63	59	71	63	76	61	......	59	......	73	......	76	......	75	......	71	......	73
18	85	69	73	55	77	63	58	50	76	57	77	62	......	62	......	72	......	75	......	75	......	73	......	77
19	84	68	74	55	76	63	53	44	77	64	79	63	......	59	......	72	......	77	......	77	......	73	......	78
20	85	68	65	54	73	62	59	37	78	63	78	66	......	55	......	75	......	76	......	69	......	75	......	77
21	86	69	79	51	70	61	67	45	76	69	68	60	......	61	......	72	......	75	......	73	......	76	......	75
22	75	72	71	63	63	52	73	58	72	67	74	54	......	62	......	70	......	75	......	73	......	75	......	76
23	84	74	74	56	73	52	69	62	76	55	78	58	......	63	......	73	......	75	......	73	......	74	......	76
24	79	70	79	59	76	60	64	53	67	53	76	67	......	69	......	72	......	73	......	74	......	75	......	78
25	81	66	82	65	69	61	59	44	71	53	76	60	......	69	......	73	......	73	......	72	......	76	......	76
26	78	65	81	66	67	64	68	51	76	68	71	60	......	62	......	72	......	72	......	76	......	76	......	75
27	80	65	75	69	61	41	67	63	77	67	72	50	......	64	......	67	......	74	......	76	......	76	......	73
28	76	61	71	64	63	38	70	65	70	55	81	59	......	68	......	69	......	75	......	71	......	77	......	75
29	80	60	65	55	68	50	73	65	......	......	81	70	......	74	......	77	......	73	......	74	......	77	......	76
30	80	65	57	37	72	52	72	66	......	......	(*)	54	......	73	......	70	......	81	......	75	......	76	......	77
31	81	64	......	......	76	56	69	61	......	......	......	61	......	......	......	71	......	......	......	77	......	75	......	......
Range	29°		46°		45°		43°		32°		43°		......		......		......		......		......		......	
Monthly means	75°		68°.3		63°.5		62°		66°.4		65°.2		72°.8		78°.8		80.6		80°.9		80°.5		80°.1	

* Maximum thermometer out of order.

Maximum, minimum, and mean temperatures—continued.

ROCHESTER, N. Y.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	55	42	52	32	26	16	27	15	19	7	33	14	47	32	60	40	74	45	80	66	80	69	77	59
2	60	40	50	36	42	20	39	11	11	−5	30	24	48	37	53	36	68	51	81	66	83	64	73	52
3	62	45	45	30	41	29	45	35	32	10	24	7	48	36	42	36	80	55	82	70	77	65	78	51
4	59	38	52	32	35	25	35	19	46	29	10	4	45	30	62	34	85	63	83	67	73	59	81	61
5	61	45	49	34	34	24	30	18	30	23	20	0	48	34	57	46	70	57	84	63	74	51	75	56
6	60	58	51	42	34	26	26	17	45	28	38	2	51	40	58	40	78	55	71	54	83	54	62	49
7	60	48	46	34	32	24	24	16	48	27	55	36	57	36	67	42	65	50	75	48	78	64	58	45
8	57	42	45	37	39	16	36	17	48	21	......	......	47	35	51	45	71	49	71	57	78	64	63	48
9	72	38	44	36	36	10	17	6	21	5	30	18	59	33	61	44	78	51	72	56	75	63	70	46
10	59	40	49	34	20	9	6	−1	19	6	35	19	50	37	60	40	82	56	73	57	75	65	73	52
11	45	33	55	43	24	16	9	−1	40	19	38	25	60	41	59	46	69	55	70	55	77	56	80	55
12	53	33	51	35	23	12	21	6	26	13	32	25	50	40	63	41	68	49	75	51	76	62	85	60
13	53	44	45	31	26	15	44	21	13	6	37	23	57	39	57	39	80	45	87	62	67	54	73	49
14	47	40	43	28	35	26	43	20	25	7	45	30	54	38	54	33	78	59	84	70	69	56	51	40
15	44	35	33	23	38	16	39	16	29	18	52	34	48	37	56	39	79	63	83	69	73	57	58	38
16	50	34	30	23	31	20	55	39	32	26	52	28	52	36	61	47	83	60	74	62	72	56	61	47
17	55	32	34	21	31	19	49	12	35	25	37	27	45	32	59	45	70	54	83	64	70	49	61	39
18	53	43	33	25	25	16	12	8	48	23	38	29	44	33	62	41	82	50	82	69	65	57	85	66
19	48	37	33	24	26	16	12	7	45	31	46	32	44	34	64	41	88	64	74	59	72	57	71	49
20	52	27	30	19	38	19	26	8	31	19	39	28	44	30	70	47	83	61	74	55	82	57	53	43
21	75	43	33	20	......	......	35	26	31	11	30	24	45	30	65	52	77	54	77	56	81	62	60	38
22	72	48	36	30	11	−9	35	23	14	5	34	26	42	31	74	52	65	57	81	57	86	67	65	41
23	52	38	38	31	15	0	25	10	9	−5	37	21	46	28	84	61	74	57	84	60	72	58	61	51
24	50	32	47	35	5	−3	18	12	14	−7	21	13	47	35	74	50	71	63	83	69	69	50	64	43
25	53	44	58	33	4	−3	......	......	23	14	24	14	47	30	72	51	79	59	87	64	68	55	68	49
26	54	48	36	31	8	0	22	7	30	22	34	18	44	32	81	54	84	59	75	65	69	55	73	47
27	51	46	35	20	17	3	27	21	29	17	27	11	52	31	82	68	85	61	77	63	70	55	84	64
28	47	40	24	19	19	10	21	−2	26	11	46	19	52	36	73	61	80	67	80	62	77	59	86	65
29	50	30	20	12	19	15	1	−9	......	......	45	34	55	37	79	51	82	65	83	63	80	57	75	52
30	56	35	24	10	20	13	23	−12	......	......	39	28	61	42	57	40	86	67	83	65	84	62	54	43
31	51	35	......	......	28	17	23	19	......	......	40	31	......	......	67	41	......	......	86	63	76	62	......	......
Range	54°		48°		51°		67°		55°		55°		33°		51°		43°		37°		37°		48°	
Monthly means	47°		34°		20°		20°		22°		29°.5		42°		55°.8		67°.7		70°.7		66°.7		60°.3	

SAN ANTONIO, TEX.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	89	59	68	50	77	44	55	43	56	35	78	63	84	62	86	60	83	70	95	76	92	74	94	75
2	90	58	70	54	70	50	69	41	42	34	62	45	90	50	92	48	84	65	94	77	93	74	94	74.5
3	90	60	78	50	77	61	64	48	56	40	55	38	87	67	85	55	85	68	93	76	93	75	93.5	73
4	89	62	85	66	70	63	73	47	72	50	54	43	85	70	75	61	82	68	95	76	93.5	71.5	94	74
5	91	62	72	58	73	59	59	37	70	54	60	50	87	69	82	61	88	69	94	75	96	73	93	73.5
6	74	63	56	48	67	59	47	34	73	46	68	56	92	68	87	60	91	68	95	73.5	95	73	93.5	74.5
7	79	65	61	52	62	56	67	41	68	41	74	59	74	44	96	56	84	67	94	74	93	72.5	87	73.5
8	78	61	64	51	72	54	57	41	65	43	83	59	57	42	96	59	90	73	95	74	92.5	72	87.5	68.5
9	85	63	72	52	60	42	60	32	65	41	72	64	77	34	78	58	89	72	94.5	72	91	72	87	66
10	82	67	77	53	51	43	59	33	70	54	85	64	82	42	87	58	90	70	96	76	87	73	87	72
11	78	55	78	60	43	38	63	49	66	47	88	65	83	56	87	62	87	73	97.5	73	92.5	72.5	82	73
12	79	52	75	50	50	33	68	56	70	37	87	62	84	50	78	64	89	75	96.5	74	92.5	72	86.5	71
13	87	50	70	35	50	36	68	58	71	47	81	62	74	64	93	68	92	76	97.5	76	93	73	81	72
14	85	57	51	30	61	49	75	58	75	58	86	64	74	59	96	74	91	76	94	77	94	73	84.5	66
15	84	57	49	26	56	40	63	40	70	50	85	64	74	48	98	71	88	71	96.5	76.5	95	74	87	60.5
16	84	60	56	28	46	38	52	32	76	41	70	58	80	36	96	73	78	73	92.5	74	93	73.5	88	60.5
17	82	62	53	30	43	37	57	30	79	45	80	59	82	41	93	73	86	71	85	74	88	75	90	60
18	83	59	60	28	46	44	56	26	82	60	77	58	87	53	94	75	89	71	84	71	87	73	91.5	59.5
19	83	57	67	32	60	41	69	42	77	60	71	60	78	64	92	72	87	70	80	70	90	72	92	65
20	75	58	63	39	53	31	73	43	82	64	74	56	92	57	90	73	83	73	86	69	91	71	93	65
21	83	60	70	40	57	30	74	45	70	41	80	50	95	54	94	72	85	76	88	70	96	74	94	73
22	74	56	67	36	43	25	72	49	71	38	73	59	96	61	95	69	86	76	88	69	92.5	72	94.5	75
23	74	54	70	38	55	35	60	31	60	35	76	53	73	55	92	73	90	76	87	71	95	72	92	75.5
24	65	53	79	64	37	22	57	28	66	50	88	59	73	46	94	73	91	75	88	72	92.5	73.5	92	72
25	70	59	72	65	45	20	67	47	81	64	58	39	76	45	93	63	90	74	90	72	90	72	92.5	70
26	83	59	73	44	50	31	57	34	77	51	64	31	76	47	84	64	91	73	92	73	88	71	91	74.5
27	81	66	64	49	37	12	56	31	70	45	69	41	86	64	82	65	92	72	91	76	93	71	85	75.5
28	81	72	67	38	35	30	21	18	66	53	90	58	97	69	83	60	94	74	93	76	94.5	72	92.5	76
29	75	55	58	33	55	37	41	16	......	......	87	52	95	70	91	76	96	73	95	73	92.5	73	85	65.5
30	71	50	68	33	60	55	52	22	......	......	92	66	94	65	80	64	94	73	90	71	83	73	84	62.5
31	71	45	......	......	62	45	68	30	......	......	88	64	......	......	82	70	......	......	92	75	93	74.5	......	......
Range	46°		57°		61°		59°		48°		61°		63°		50°		31°		28°.5		25°		34°.5	
Monthly means	60°.74		55°.50		48°.41		......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......

Maximum, minimum, and mean temperatures—Continued.

SAINT PAUL, MINN.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	......	......	47	31	34	19	19	0	−3	−14	25	2	43	34	62	35	75	53	77	55	75	60	71	32
2	......	......	49	34	33	17	24	14	12	−20	25	3	48	27	64	45	75	60	81	56	69	54	77	49
3	......	......	44	36	22	13	19	3	22	2	6	−13	60	30	69	36	70	60	84	62	77	52	83	57
4	*63	49	41	32	35	13	20	−4	22	4	17	−22.5	51	40	73	45	81	54	82	60	80	54	66	57
5	67	50	41	34	32	15	7	−11	29	−1	31	12	53	37	73	50	85	59	70	54	84	57	56	46
6	57	41	48	31	(†)	......	21	−14	38	8	46	27	45	32	73	54	91	62	77	57	81	60	60	48
7	60	34	46	34	......	......	30	3	34	14	45	18	39	31	72	55	87	70	76	60	84	61	65	42
8	73	47	41	27	......	......	5	−9	13	0	35	12	39	27	60	40	81	67	77	55	86	61	63	52
9	53	34	52	35	......	......	−5	−15	24	0	35	18	39	23	51	40	73	52	67	62	89	69	81	51
10	39	28	50	30	......	......	5	−16	35	17	42	26	45	30	51	42	76	52	70	52	81	68	86	59
11	55	23	37	20	......	......	17	2	19	5	31	6	50	34	62	40	76	52	76	51	82	61	52	46
12	54	38	36	22	......	......	26	12	19	−2	35	8	54	32	70	35	80	62	78	59	82	59	51	35
13	43	30	37	26	......	......	21	15	22	8	45	28	62	42	52	32	79	58	91	58	82	62	59	35
14	51	26	33	19	......	......	28	15	26	3	48	30	61	49	55	35	62	53	82	66	71	66	65	48
15	56	37	25	16	......	......	29	2	37	18	37	25	51	41	65	44	87	61	85	58	71	59	62	38
16	51	29	26	11	......	......	9	−17	39	20	40	30	50	36	70	46	84	58	92.5	69	74	50	76	50
17	59	38	22	8	......	......	−2	−25	41	27	50	30	55	34	69	53	89	64	77	64	68	57	51.5	40
18	61	33	18	0	......	......	4	−26	39	8	50	25	62	38	59	50	91	72	67	49	82	53	52	33
19	71	40	14	2	0	−19	23	0	26	1	36	15	53	30	70	40	82	62	78	46	81	64	59	30
20	67	44	17	2	−3	−13	27	16	23	−10	27	5	46	34	60	46	85	57	78	57	89	64	59	30
21	57	38	27	17	−10	−23	26	20	0	−21	35	12	50	32	66	49	90	62	84	58	77	64	61	41
22	51	28	34	23	4	−10	24	3	6	−22	48	5	38	25	72	52	82	60	84	61	76	57	57.5	38
23	61	29	35	25	−6	−27	10	−1	7	−17	33	6	41	26	70	58	86	68	88	66	79	60	61	38
24	63	34	30	22	−9	−31	10	−9	19	−9	26	12	40	31	69	56	86	67	87	69	85	67	55	47
25	61	37	26	16	4	−9	10	−14	28	3	25	7	35	30	73	54	90	72	79	65	79	61	58	42
26	60	32	24	−1	4	−9	11	0	29	13	26	4	56	35	72	60	91	72	78	59	72	59	67	51
27	62	32	7	−13	−2	−24	5	−10	29	16	40	8	67	37	69	56	86	69	80	57	78	60	51	41
28	59	41	−1	−13	10	−18	−6	−21	25	3	36	27	65	35	76	54	85	63	74	58	84	62	51	43
29	58	50	10	−14	17	7	7	−21	......	......	43	24	65	35	66	47	71	61	80	62	84	66	48	34
30	50	38	13	−9	24	14	25	7	......	......	42	34	63	46	67	38	77	57	71	58	77	67	51	32
31	42	35	......	......	20	5	7	−7	......	......	52	26	......	......	71	40	......	......	76	55	73	62	......	......
Range	50°		66°		......	......	56°		61°		74°.5		44°		44°		39°		46°.5		39°		56°	
Monthly means	47°.2		23°.8		....		6°.7		14°.3		26°.7		41°.9		55°.1		73°		71°		70°.7		41°	

TOLEDO, OHIO.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	......	......	......	......	......	......	......	......	24	5	35	25	48	34	57	46	67	43	85	69	80	68	79	65
2	......	......	......	......	......	......	......	......	19	−1	33	24	48	38	60	45	77	52	80	69	84	70	77	54
3	......	......	......	......	......	......	......	......	42	14	25	4	47	37	49	41	87	60	85	62	76	61	73	60
4	......	......	......	......	......	......	......	......	48	30	16	−3	45	37	64	39	88	66	83	68	72	55	83	70
5	......	......	......	......	......	......	......	......	42	23	30	−1	68	37	73	47	83	62	85	64	75	53	75	63
6	......	......	......	......	......	......	......	......	49	30	51	18	70	46	59	46	80	62	67	53	82	57	64	52
7	......	......	......	......	......	......	......	......	50	25	58	42	68	46	58	49	72	53	79	57	85	66	72	57
8	......	......	......	......	......	......	......	......	37	20	50	39	46	36	68	51	71	50	75	64	82	71	64	49
9	......	......	......	......	......	......	......	......	25	15	32	27	46	37	68	59	81	60	74	60	77	66	69	50
10	......	......	......	......	......	......	......	......	45	17	48	34	57	36	63	51	77	67	72	60	81	60	77	57
11	......	......	......	......	......	......	......	......	44	29	46	29	52	39	63	47	74	57	73	56	85	67	82	59
12	......	......	......	......	......	......	*41	14	23	16	37	27	44	37	69	49	69	61	76	53	78	64	84	66
13	......	......	......	......	......	......	48	38	20	16	48	26	50	37	61	50	77	56	89	64	73	58	68	49
14	......	......	......	......	......	......	38	31	30	20	55	31	57	41	54	42	85	61	90	69	75	58	54	40
15	......	......	......	......	......	......	56	29	35	20	59	44	53	41	53	45	84	61	83	71	76	58	70	45
16	......	......	......	......	......	......	55	20	35	26	43	35	48	39	64	41	89	66	89	67	74	64	68	52
17	......	......	......	......	......	......	19	7	36	22	46	28	53	40	62	49	76	57	91	70	71	59	74	50
18	......	......	......	......	......	......	15	9	57	35	46	36	53	40	62	50	87	60	84	66	76	53	84	65
19	......	......	......	......	......	......	22	6	48	30	51	36	55	38	57	52	91	72	74	58	82	37	72	46
20	......	......	......	......	......	......	35	19	35	23	45	27	49	32	78	54	85	67	73	59	87	66	57	38
21	......	......	......	......	......	......	40	32	33	11	36	26	50	33	79	55	85	56	77	56	87	69	60	42
22	......	......	......	......	......	......	35	27	18	4	43	26	37	31	85	64	88	66	82	60	86	63	54	47
23	......	......	......	......	......	......	23	14	4	−4	47	34	42	31	84	68	92	67	86	64	77	64	62	44
24	......	......	......	......	......	......	29	15	24	−3	34	23	48	30	82	62	......	......	87	67	78	57	68	44
25	......	......	......	......	......	......	28	17	34	16	28	21	45	32	71	54	75	67	90	69	88	69	66	56
26	......	......	......	......	......	......	29	6	31	16	25	20	54	36	84	59	84	67	84	70	76	64	81	49
27	......	......	......	......	......	......	26	5	31	20	34	14	65	40	84	68	89	71	78	65	70	59	86	68
28	......	......	......	......	......	......	20	−1	34	20	53	27	53	46	78	63	84	66	80	69	73	58	83	70
29	......	......	......	......	......	......	10	−15	......	......	48	37	65	43	83	53	84	69	84	68	77	66	72	49
30	......	......	......	......	......	......	28	−2	......	......	47	32	56	42	53	42	78	68	84	63	84	66	59	44
31	......	......	......	......	......	......	31	16	......	......	49	36	......	......	61	48	......	......	82	70	82	69	......	......
Range	......	......	......	......	......	......	......	......	61°		62°		40°		46°		49°		38°		33°		48°	
Monthly means	......	......	......	......	......	......	22°.2		26°.6		24°.9		45°.9		60°.2		74°		74°.0		72°.1		62°.6	

* Station supplied with self-registering maximum and minimum thermometers January 12, 1873.

Maximum, minimum, and mean temperatures—Continued.

TORONTO, CANADA.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	53	41	49	33	29	18	26	17	9	-8	36	6	39	26	61	34.5	70	40	82.5	60.5	82.5	64.5	75	56
2	61	38	50	30	37	27	36	19	11	-10.5	33.5	22	43	33	47	37	65	49.5	75	66.5	81.5	62.5	75	51
3	65	39	50	34	34	26	41	27.5	31	8	26	1	46	34	49	38.5	68	49	81.5	63.5	77	59	72	50.5
4	58	38	50	33	29	28	31	20.5	43	26.5	10	-2	41.5	31	61	32	82	52	83	62	73	58	76	62
5	64	45.5	48	34	35	23	33	21	32	22	23	-6	38	33	57	39.5	80	49.5	85	56	74	54	72	53
6	70	51	50	37	32	24	26	12	40	24	34	6	42	33.5	55	39	74.5	54	69	52.5	81	52	61	46
7	60	44	45	31	36	23	28	17	37	20	43	25	42	34	56	44.5	68	48	74	48	80	63	57	46
8	57	38	47	35	40	20	38	13	40	14	41.5	22	40	35	48	42	72	50.5	74	58.5	78	62	63.5	43.5
9	66	40	46	30	22	5	19	-1.5	15	2	28	14	38	34.5	53	39.5	70	46.5	76	55.5	75	55	65.5	44.5
10	56.5	33.5	47	32	20	4	4	-4	22	-6	33	18	49	32	61.5	44.5	68	49	65.5	55	78	55.5	70	52.5
11	45	34	52	42	25	8	14	-4	38	17	39.5	28	51	32	59	41	74	52	70	47.5	72	57	76	50
12	51	31	50	30	24	4	27	1.5	21	8	33	21	50	36.5	60	38.5	66	47.5	72.5	52.5	74	57	79	55
13	50	41	45	29	30	21	38.5	25	15	-1	37	21	58	38.5	54.5	34.5	65	43.5	70.5	52.5	68.5	59.5	67.5	45
14	46	33	46	25	38	28	37	19	18	8.5	42	24	56	30.5	56	30	70	50	79.5	54.5	76	58	56	37
15	45	30	37	22	37	15	39	17	26	2	45	35	51	39	57	38.5	78.5	55	85	66	72	57	55.5	33.5
16	49	30	33	20	26	13	46	25	33	21	40	26	48	38	61.5	42.5	83	54	72	61	72.5	50.5	61	39
17	44	30	37	20	23	11	26	6	34	22	38	24	38	31	63	40	67	56.5	84	50.5	71	46.5	59	36.5
18	55	35	32	22	27	14	9	-2	35	20	33.5	29	42	32.5	62	40.5	78	48.5	80.5	64	74	54	74	53.5
19	44	32	30	22	26.5	12	18	-2	38	25	43	27	48	32.5	64	44.5	89.5	57	73	54	74.5	58.5	65.5	45.5
20	50	25	29	18	33.5	19	26	16	27	13	38	26.5	45	27	56	43	76	56	70	51	79	57.5	55	38
21	63	37	34	18	20	0	32	25	33.5	10	31	24	44	26.5	63.5	46	81.5	49	78	54	78	58	59	36.5
22	63	45	37	26	11	-13.5	29	12	15	5	37	26	45	30	64	46.5	66	56	79	52	85	62.5	58	43.5
23	52	38	30	30	12.5	-2	16	4	6	-5.5	37	13	45	24	73	47	65	57	87	56	73	56.5	60	45
24	53	34	42	30	1	-8	13	8	20	-5	21	6	43	28.5	75	56.5	71	59	83	63	65	46	62	45
25	53	38	49	26	4	-12.5	15	-3.5	27.5	17	21	14	45	25	69	48.5	72	56	81	57	69	55.5	62.5	47
26	52	47	39	24	3	-3	23	0	28	15	22.5	11	47	29	71	50	72	53	74	60	72	58.5	65	42.5
27	51	45	33	17	14	-12	25	10.5	31	11	29	6	50	30	76	55	86	55.5	78	61	70	56	76	53.5
28	50	34	34	15	20	4	19.5	-13	21	4.5	38	10	52	31.5	72	54	79	60	75	55	77	60.5	77	62
29	47	33	23	8	21	4	3	-18	......	......	39	32	56	34	70	46	79.5	54.5	85	65	75	55.5	69	48
30	52	37	22	10	22	2	19	-6	......	......	37	25	61	38.5	54	39.5	73	62	82	61	84	58	54.5	42.5
31	51	33	......	......	29	18	25	13	......	......	43	28.5	......	......	62	36.5	......	......	76	59	70.5	65	......	......
Range	45°		44°		53°.5		64°		53°.5		51°		37°		46°		49°.5		39°.5		39°		45°.5	
Monthly means	......		......		......		......		......		......		......		......		......		......		......		......	

VIRGINIA CITY, MONT.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	76	45	46.5	32.5	39	26	27.5	6	6.5	−21	......	......	......	......	......	......	......	......	......	......	80	51	......	......
2	73	41	46	27.5	37	21	19	4	36	3	......	......	......	......	......	......	......	......	......	......	81	49	......	......
3	63	35	36	21	45	26	20	− 4	27	16.5	......	......	......	......	......	......	......	......	......	......	......	......	......	......
4	63	28	35.5	11.5	36.5	22	22	2	28	13.5	......	......	......	......	......	......	......	......	......	......	......	......	......	......
5	59.5	33.5	38.5	12	30.5	14	34.5	19	33	19	......	......	......	......	......	......	......	......	......	......	......	......	......	......
6	70.5	33	51.5	11	34	13.5	40	31.5	35	9	......	......	......	......	......	......	......	......	83	40	......	......	......	......
7	75	40	59	40	43	27	37	5	29	12	......	......	......	......	......	......	......	......	81	57	......	......	......	......
8	61	34	50	18	43	25	26	4	28	3	......	......	......	......	......	......	......	......	71	51	......	......	......	......
9	42	22.5	28	11.5	31	14	36	17	33.5	15	......	......	......	......	......	......	......	......	70	44	......	......	......	......
10	69	25	24	11	22	7.5	40	22	31	10	......	......	......	......	......	......	......	......	69	50	......	......	......	......
11	66	37.5	31	10	25	3	40.5	22	34	13	......	......	......	......	......	......	......	......	78	51	......	......	......	......
12	68	38	23.5	− 1	33	14	37	26	29	15	......	......	......	......	......	......	......	......	57	39	......	......	......	......
13	60	36	8	− 9	36.5	18	28	18.5	27	11	......	......	......	......	......	......	......	......	60	43	......	......	......	......
14	69	40	2	−18	18	− 6	25	9	27	2.5	......	......	......	......	......	......	......	......	66	37	......	......	......	......
15	62	35	4	−19	18	− 6.5	34	6	35	13	......	......	......	......	......	......	81.5	42	64	49	......	......	......	......
16	63.5	35.5	12	− 8	19	− 2	41	30.5	27	19	......	......	......	......	......	......	81	53	63	45	......	......	......	......
17	69	43	23	− 9	16	6	35	22	21	4	......	......	......	......	......	......	79	47	82	44	......	......	......	......
18	70	40	32	8.5	8	− 7	40	20.5	15	− 8	......	......	......	......	......	......	72	45	82	56	......	......	......	......
19	66	43	38.5	17	16	− 8	47.5	36	19	−13	......	......	......	......	......	......	76	39	85	59	......	......	......	......
20	57	29	37	23	− 1.5	−15	42	27	23	7	......	......	......	......	......	......	80	42	84	54	......	......	......	......
21	42	19	33	18.5	28	−21.5	38.5	16.5	34	12	......	......	......	......	......	......	62	43	87	57	......	......	......	......
22	52	21	37	26.5	29.5	−18	25	9.5	33.5	6	......	......	......	......	......	......	46	31	88	56	......	......	......	......
23	62	24	34	11	30.5	−20	29	8	......	(*)	......	......	......	......	......	......	58	24	86	59	......	......	......	......
24	61.5	24	18	2	42	9	29.5	11.5	......	......	......	......	......	......	......	......	67	23	79	40	......	......	......	......
25	50	34.5	25	1	38.5	26	29	11	......	......	......	......	......	......	......	......	72	56	85	50	......	......	......	......
26	49	28	24	0	39.5	16	33	− 9	......	......	......	......	......	......	......	......	64	36	76	48	......	......	......	......
27	35	24	35	16	38	25.5	− 9.5	−21.5	......	......	......	......	......	......	......	......	80	35	78	55	......	......	......	......
28	28.5	10.5	37	15	33	17	20	−21	......	......	......	......	......	......	......	......	71	45	87	54	......	......	......	......
29	32	8.5	49	30	24.5	10	34	15	......	......	......	......	......	......	......	......	......	......	86	59	......	......	......	......
30	38.5	20.5	43	32	16.5	3.5	22	− 7	......	......	......	......	......	......	......	......	......	......	77	60	......	......	......	......
31	37	13	......	......	25	8	− 7	−22.5	......	......	......	......	......	......	......	......	......	......	86	53	......	......	......	......
Range	67°.5		78°		66°.5		70°		......		......		......		......		......		......		......		......	
Monthly means	43°.9		23°.6		18°.8		23°.4		15°.6		......		......		......		......		......		......		......	

* No observations taken from February 22 to June 15, 1873.

Maximum, minimum, and mean temperatures—Continued.

WASHINGTON, D. C.

Day of month.	1872.						1873.																	
	October.		November.		December.		January.		February.		March.		April.		May.		June.		July.		August.		September.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	64	51	59	39	43	18	38	31	41	12	37	22	68	43	64	50	81	46.5	88.5	72	98	76	92.5	72
2	65	46	55	35	56.5	39.5	40	30	36	16	44	26	73	48	62.5	48	90	56	97	68.5	93	73.5	86	67
3	77	......	55	43	46.5	34.5	51	36	44	16	30	11	71	44	60	46	87	57	101	77.5	92	72	84	62
4	78	59	55	40	40	29	49.5	30	63	42	20	4	70	47	65	43	90	60	93	73	86	68	88.5	74
5	77	55	58	34	42	25	41	32.5	52	35	27.5	9.5	70	46	74.5	50	86	71	91	71	83	64	92.5	71
6	82	66	62	50	53	27	47	26	48.5	30.5	46	11	70	46	75	49	90	66	84	68	90	61	76.5	61
7	74	59	62	48	46	31.5	38	18	42	36	58	26.5	74	48	58	47	80	66	87	62	93	70	77	59
8	64	50	57	42	48.5	30	36	20	54.5	34	63	41	82.5	53.5	55	48	81	56	80.5	64	92	73	69.5	60
9	70	44	53	34	41	19	41	21.5	40	19	69.5	42	87	59	67	49	86	63.5	81.5	63	90	73	73.5	52
10	75	50	57	31	25	16	35	12	41	16.5	51	37	67.5	44	74	53	81.5	66	88	63.5	83	70	71.5	58
11	54	43	61	38	39	18	26	12	55	35	60	40	66	50	66	56	80	71	84	69	88	65	77	56.5
12	60	36	65	41	29.5	21	37	21.5	46	31	49	33	51	41	74	51	80	65	88	61.5	81	66	81.5	56.5
13	61	46	55	37	39	21	49	26	31	21	48	35	61	41.5	83	58	82	59	88	72	78	64	83.5	63
14	53	41	52	43	51.5	26	57	37	37	21	58	37	68	46	68	49	83	52	97	73	77	63	63.5	52
15	58	38	46	32	51.5	35	43	36	41	20	70	43	71	43	75	52.5	77	69	91.5	73	81	65	68	44
16	69	49	37	28	44.5	30	64.5	37	40	32.5	65	38	51.5	41	75	52	92	67	96	73	87.5	66	80	55
17	65	44	40	26	46.5	32	61	32	48	33	51	38	45	39	70	52	92	73	97	76	72	64.5	72	57
18	64	52	45.5	28	40	30	32	24	53.5	28	64	31	62	41.5	74	45	94	67	96.5	72.5	82	66	77	62
19	59	43	50	22	37	27	28	21	54	36	65	41	59	43	64	55	91.5	72	92	71	81	69	78.5	60
20	59	37	45.5	26	44.5	31	40	23	51	32	50	35	62	39	61	55	94.5	76	84.5	64.5	78	68	63.5	50
21	69	37	40.5	18.5	42.5	23.5	46	34	45	32	41	31	56	44	59	53	88.5	61.5	85.5	64.5	87	73	66	44
22	71	49	42	29	40	3	41	31	38	26	42	33	71.5	43	70	59	96	66.5	93	63.5	88	74.5	69.5	40
23	67	55	51	38	41.5	18	33.5	27.5	27	11	68	35	45	38	83	61.5	81.5	67	91	64	90	70	77.5	62
24	55	49	58	32	27	6	33.5	25	25	1	63	29	52	37	91	62.5	82.5	65	93	71.5	77	61	73	60
25	66	50	63.5	44	15	5	32	18	35	19	35	29	52	38	91	62	77.5	61.5	97	70	88	57	78.5	59
26	67	54	52.5	36	19	11.5	38	21	45	27.5	40	32	54.5	36	88	64	86.5	57	94.5	78	89.5	69	81	63
27	66	49	48.5	24.5	19	11	40	30	43	29	43	25	62.5	39	90	66	88	69	93	72	79	69	81	61
28	55	45	49	24	23	13	42	21	33.5	21	61	27	65	43	92.5	71	86.5	72	92	......	74.5	64	81	68
29	52	37.5	38	15	36	44	25	2.5	......	......	58.5	45	59	47	87	66	78	72.5	95	70	71	66	83.5	71
30	51	33.5	23.5	14	41.5	26.5	26	— 7	......	......	65	43	70	44	88	56	92	75	89.5	72	84	64	76	51
31	51	39	......	......	45	34	41	5	......	......	60	48	......	......	71	49	......	......	92.5	71	98	66	......	......
Range	48°.5		51°		53°.5		71°.5		62°		65°.5		51°		49°.5		50°.5		39°.5		41°		48°.5	
Monthly means	55°.8		42°.2		31		31°.7		31°.1		41°.5		53°.3		63°.6		76°.5		80°.3		74°.9		68°.3	

Stations.	1872.			1873.									Annual amounts.
	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	
Alpena, Mich	2.40	1.59	1.76	1.43	0.43	1.53	3.12	2.91	3.03	3.21	1.96	5.14	28.51
Augusta, Ga	1.36	3.90	3.48	5.03	4.16	3.65	2.00	8.63	3.12	3.34	5.36	3.27	47.30
Baltimore, Md	4.08	3.17	2.72	4.27	4.74	3.02	2.77	6.31	0.94	2.90	9.49	3.70	48.11
Boston, Mass	4.85	3.66	3.09	5.76	3.21	3.76	3.83	5.10	0.54	3.84	6.21	2.91	46.76
Breckenridge, Minn	2.17	1.03	1.14	1.63	2.21	1.81	2.11	2.33	4.17	2.78	7.20	0.38	28.96
Buffalo, N. Y	4.36	4.29	1.93	1.68	1.42	5.52	3.58	2.52	1.77	7.19	3.46	2.60	40.32
Burlington, Vt	3.05	2.75	1.35	2.18	0.36	1.54	1.43	1.46	1.35	4.83	2.21	2.09	24.60
Cairo, Ill	1.16	0.57	1.56	5.03	6.68	3.27	5.54	5.07	4.45	1.68	2.48	4.09	41.58
Cape May, N. J	3.28	2.71	2.65	6.79	7.61	3.07	3.95	3.29	0.93	0.82	7.33	5.53	47.96
Charleston, S. C	4.21	3.40	2.46	4.13	2.27	3.05	1.33	4.90	6.29	6.97	12.94	8.18	60.13
Cheyenne, Wyo	0.33	0.03	0.03	0.03	0.02	0.38	0.92	2.41	1.77	1.10	2.07	0.36	9.45
Chicago, Ill	0.65	1.06	0.19	2.56	0.47	0.89	6.12	7.20	1.44	4.04	1.58	2.53	28.73
Cincinnati, Ohio	3.33	1.12	2.43	2.66	3.76	2.36	2.89	3.50	3.58	3.94	4.69	2.24	36.50
Cleveland, Ohio	4.08	1.24	1.73	2.41	1.94	3.24	5.38	3.11	5.50	4.82	1.87	2.44	37.76
Corrinne, Utah	0.61	0.29	3.86	1.63	1.67	0.81	0.85	3.46	0.12	0.14	1.75	0.43	15.62
Davenport, Iowa	0.61	1.86	0.61	3.56	0.77	1.43	3.96	6.37	2.16	2.37	0.51	1.00	25.21
Denver, Colo	0.68	0.69	0.29	0.13	0.24	0.22	2.43	0.75	2.24	2.00	1.41	0.89	11.97
Detroit, Mich	1.60	0.67	0.69	3.20	0.32	1.79	4.74	3.50	5.18	3.38	0.19	3.28	28.54
Du Luth, Minn	0.42	2.48	0.48	0.75	0.93	2.29	0.30	3.89	9.90	8.50	2.45	5.16	37.55
Escanaba, Mich	0.47	3.11	0.50	0.56	0.36	1.89	0.35	2.93	4.88	3.33	1.87	5.45	25.70
Fort Benton, Mont	0.19	0.61	0.59	0.60	0.65	0.23	1.14	3.03	1.67	1.29	1.59	0.58	12.17
Fort Sully, Dak	0.02	1.28	0.57	1.00	0.29	0.49	1.06	3.17	3.23	1.86	2.66	0.07	15.70
Galveston, Tex	1.86	7.98	5.37	3.43	0.50	2.80	2.27	5.36	8.61	6.83	8.04	7.37	60.42
Grand Haven, Mich	0.84	2.02	....	....	0.91	1.62	2.24	5.42	4.15	3.25	1.95	2.30	....
Indianapolis, Ind	1.07	0.80	2.10	4.50	2.85	3.48	5.91	3.89	3.70	11.28	1.32	1.76	42.66
Indianola, Texas	1.32	1.72	6.55	1.81	1.13	2.34	0.32	6.96	3.74	3.49	5.00	9.18	43.56
Jacksonville, Fla	6.37	1.71	4.81	3.86	0.50	5.29	0.56	5.36	8.41	7.75	6.21	10.67	61.50
Keokuk, Iowa	0.42	0.74	0.50	3.31	0.53	0.51	5.65	3.42	1.21	8.77	0.54	3.37	28.97
Key West, Fla	2.09	0.98	0.65	3.91	0.16	0.04	2.02	1.02	3.86	4.95	3.67	6.23	29.58
Knoxville, Tenn	0.82	3.69	6.68	3.85	12.42	5.38	2.82	4.46	5.94	4.34	2.87	3.79	57.06
La Crosse, Wis	....	1.13	0.19	0.66	0.34	0.48	1.16	2.23	5.09	2.48	1.68	3.66	....
Lake City, Fla	5.24	1.52	3.47	5.36	1.25	6.31	2.70	5.97	9.27	5.81	5.25	3.86	56.01
Leavenworth, Kans	2.06	0.06	1.34	3.02	1.03	1.75	5.07	5.38	3.15	2.04	2.40	3.64	30.94
Lexington, Ky	....	1.21	3.53	2.53	4.05	3.73	2.88	6.05	4.54	3.37	2.94	1.60	....
Louisville, Ky	2.92	0.56	2.58	2.93	5.42	3.39	3.05	5.73	3.87	3.43	3.04	2.50	40.42
Lynchburgh, Va	2.44	3.50	2.44	4.42	5.92	2.52	3.37	9.42	5.17	2.86	10.03	1.64	53.73
Marquette, Mich	0.61	1.48	0.45	0.43	0.23	0.97	1.12	1.64	4.25	6.73	1.26	4.29	23.46
Memphis, Tenn	3.23	1.67	3.47	5.85	8.98	3.44	4.87	4.82	6.36	0.82	4.53	3.53	51.57

Monthly and annual amounts of rain-fall, in inches, &c.—Continued.

Stations.	1872.			1873.									Annual amounts.
	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	
Milwaukee, Wis	0.73	1.74	0.49	2.81	0.17	1.22	2.30	5.17	2.88	2.69	4.01	2.87	27.08
Mobile, Ala	2.77	5.65	3.70	4.16	3.15	3.86	0.88	11.47	9.87	8.75	10.35	8.07	72.68
Montgomery, Ala	0.53	5.73	4.08	4.97	9.97	4.51	5.57	10.25	11.08	4.17	2.56	2.38	65.80
Morgantown, W. Va	....	....	....	....	5.31	4.01	2.12	4.11	5.70	7.61	4.71	3.52	....
Mount Washington, N. H	5.53	4.01	1.38	3.39	5.20	5.81	2.72	4.55	3.20	13.54	5.81	13.66	68.80
Nashville, Tenn	1.58	2.25	2.48	2.96	7.14	4.11	3.59	4.11	4.20	4.63	2.36	1.81	41.22
New Haven, Conn	....	....	....	7.55	3.49	4.05	5.79	6.27	2.07	1.55	9.90	2.12	....
New London, Conn	3.77	5.46	4.04	6.38	3.31	2.24	2.76	5.38	0.58	1.38	3.41	2.38	41.09
New Orleans, La	3.18	7.43	5.25	5.06	1.93	5.10	1.74	18.68	6.68	6.27	8.30	3.19	72.81
New York, N. Y	3.43	5.04	2.54	5.06	1.73	1.88	3.05	4.08	1.29	4.15	7.69	2.51	42.45
Norfolk, Va	9.80	3.10	5.69	4.68	6.66	2.03	1.79	5.01	4.61	2.74	7.45	7.13	60.78
Omaha, Nebr	3.89	0.87	0.11	0.64	0.02	0.44	3.83	5.59	5.86	4.27	1.60	1.86	28.98
Oswego, N. Y	5.91	1.91	1.07	1.35	0.28	5.47	2.62	1.41	1.91	3.71	2.46	2.39	30.49
Pembina, Dak	....	0.84	....	....	....	0.04	0.25	2.16	2.90	1.47	2.88	1.95	....
Philadelphia, Pa	5.20	3.43	2.74	5.84	4.75	2.04	3.51	5.83	0.90	5.00	11.49	3.58	54.31
Pittsburgh, Pa	4.09	0.83	2.31	3.16	3.08	3.87	3.01	3.21	2.15	3.44	5.19	1.94	36.28
Portland, Me	3.55	4.27	2.54	4.42	0.93	2.87	2.79	2.80	1.60	3.52	2.63	4.03	35.95
Portland, Oreg	1.80	4.67	9.47	8.49	6.58	12.26	2.35	2.18	2.96	1.02	0.84	0.00	53.12
Punta Rassa, Fla	2.82	0.53	1.87	6.84	0.48	1.59	3.58	9.09	5.21	5.13	9.85	9.13	56.12
Rochester, N. Y	8.14	2.07	4.05	3.33	1.52	7.02	4.71	3.52	1.84	5.42	3.01	2.97	47.60
San Diego, Cal	0.00	0.00	1.44	0.34	4.15	0.11	0.10	0.01	0.00	0.00	1.95	0.00	8.10
San Francisco, Cal	0.11	2.66	5.95	1.58	3.94	0.78	0.43	0.00	0.02	0.01	0.08	0.00	15.66
Santa Fé, N. Mex	0.25	0.01	0.04	0.55	0.14	0.15	0.26	0.33	1.72	1.02	2.79	1.23	8.59
Savannah, Ga	3.85	2.43	2.29	3.50	0.99	4.37	4.37	5.12	4.64	5.44	5.45	4.03	46.48
Shreveport, La	3.41	1.39	7.03	3.13	7.47	2.67	1.94	4.58	7.94	3.31	1.59	2.31	46.77
Saint Louis, Mo	0.55	2.01	1.70	3.53	1.52	2.10	6.86	5.27	6.68	5.96	0.07	3.02	39.27
Saint Paul, Minn	0.52	1.91	....	1.31	1.54	1.34	2.44	4.63	7.74	3.83	4.61	2.56	....
Toledo, Ohio	1.45	0.78	2.22	3.63	1.16	2.51	4.45	2.57	2.32	3.41	2.26	2.37	29.13
Vicksburgh, Miss	1.74	1.85	10.41	4.87	4.46	1.87	1.76	8.79	4.16	2.86	3.67	1.60	45.04
Virginia City, Mont	0.12	0.52	0.16	0.13	0.19	....	....	....	0.71	....	....	....	....
Washington, D. C	4.83	2.75	2.49	3.73	4.69	3.03	3.19	5.21	1.63	4.30	6.83	3.48	46.16
Wilmington, N. C	2.63	3.37	4.10	4.13	5.55	1.68	1.75	8.63	3.60	4.93	7.42	9.97	57.96
Wood's Hole, Mass	....	....	....	4.76	4.92	3.15	4.63	4.32	1.01	1.56	3.07	3.86	....
Wytheville, Va	....	....	....	....	5.95	2.75	3.80	7.76	2.97	2.87	4.99	2.75	....

atement showing how many times the wind was observed blowing from the eight cardinal points of the compass during each month and season of the year ending September 30, 1873, compiled from the local observations taken at the several stations of observation at 7 a. m., 2 p. m., and 9 p. m., (local time.)

Station.	Wind.	October, '72.	November.	December.	January, '73.	February.	March.	April.	May.	June.	July.	August.	September.	Spring.	Summer.	Autumn.	Winter.
pena, Mich	N.	5	1	3	4	1	5	5	5	3	4	6	2	15	13	8	8
	N. W.	29	16	25	17	1	12	13	15	5	10	11	19	40	26	64	43
	W.	12	23	22	18	28	24	17	10	16	21	14	19	51	51	54	68
	S. W.	7	25	24	9	9	4	2	3	8	7	3	8	9	18	40	42
	S.	12	9	14	24	13	13	8	7	5	6	5	16	28	16	37	51
	S. E.	17	10	2	9	8	17	4	18	16	22	19	13	39	57	40	19
	E.	3	1	0	7	10	2	20	14	22	11	14	6	36	47	10	17
	N. E.	3	2	0	3	6	2	9	9	6	3	6	2	20	15	7	9
	Calm.	5	3	3	2	8	14	12	12	9	9	15	5	38	33	13	13
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
gusta, Ga	N.	11	2	6	2	2	1	1	5	3	1	4	9	7	8	22	10
	N. W.	9	12	5	2	3	6	2	10	1	0	5	2	18	6	23	10
	W.	11	14	13	20	24	17	20	12	12	6	9	6	49	27	31	57
	S. W.	4	5	3	6	6	2	13	10	10	4	3	3	29	17	12	11
	S.	2	5	8	7	8	18	15	4	14	12	8	2	37	34	9	23
	S. E.	2	0	0	4	1	3	2	18	8	7	8	3	23	23	5	5
	E.	6	5	1	2	4	2	1	11	8	9	8	4	14	25	15	7
	N. E.	8	5	8	2	2	2	1	6	12	4	9	28	9	25	41	12
	0	39	41	50	51	34	38	35	17	22	50	39	33	90	111	113	135
	Blank.	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0
ltimore, Md	N.	13	6	12	16	10	5	7	9	8	14	14	15	21	36	34	38
	N. W.	14	23	19	16	28	23	28	5	8	7	4	9	56	19	46	63
	W.	16	19	19	11	8	20	9	3	10	17	6	8	32	33	43	38
	S. W.	6	9	12	4	3	11	5	9	17	14	8	9	25	39	24	19
	S.	7	8	7	9	2	2	2	7	8	9	7	12	11	24	27	18
	S. E.	5	9	4	3	6	7	13	15	10	6	7	11	35	23	25	13
	E.	4	1	3	11	2	1	9	13	5	2	13	8	23	20	13	16
	N. E.	13	4	10	12	10	12	14	21	16	5	21	9	47	42	26	32
	0	15	11	7	11	15	12	3	11	8	19	13	9	26	40	35	33
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ston, Mass	N.	8	6	4	7	6	2	8	6	5	5	17	2	16	27	16	17
	N. W.	23	41	52	46	40	46	41	21	18	15	12	20	108	45	84	138
	W.	10	13	17	9	8	17	4	10	16	23	13	20	31	52	43	34
	S. W.	9	11	5	7	4	11	1	7	15	19	5	7	19	30	27	16
	S.	10	7	4	4	7	1	5	11	5	9	4	11	17	18	28	15
	S. E.	2	3	6	1	2	7	2	4	6	4	1	5	13	11	10	9
	E.	13	4	1	10	8	5	20	22	19	12	24	16	47	55	33	19
	N. E.	12	3	1	4	5	4	7	7	4	7	5	1	18	16	16	10
	0	5	2	3	5	4	0	2	5	1	8	12	8	7	21	15	12
	Blank.	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0
eckenridge, Minn	N.	7	9	13	19	6	17	42	23	16	17	18	12	82	51	28	38
	N. W.	23	44	28	30	26	29	11	6	18	12	5	30	46	35	97	84
	W.	10	7	15	4	9	4	4	1	2	5	4	5	9	11	22	28
	S. W.	1	3	4	0	5	2	1	9	8	3	3	3	12	14	7	9
	S.	7	9	6	2	4	0	5	4	14	14	17	4	9	45	20	12
	S. E.	38	14	22	34	28	31	13	30	25	20	28	25	74	73	77	84
	E.	3	2	2	1	0	5	6	5	2	6	6	3	16	14	8	3
	N. E.	2	1	0	2	5	4	7	10	1	16	10	5	21	27	8	7
	0	2	1	3	1	1	1	1	5	4	0	2	3	7	6	6	5
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ffalo, N. Y	N.	9	1	0	3	0	2	4	0	2	1	6	3	6	9	13	3
	N. W.	16	21	23	7	11	13	2	6	6	8	5	14	21	19	51	41
	W.	10	16	29	11	18	21	20	10	9	11	10	21	51	30	47	58
	S. W.	14	21	23	36	29	33	24	27	38	48	21	14	84	107	49	88
	S.	8	4	1	7	1	6	0	5	5	3	7	15	11	15	27	9
	S. E.	5	10	8	9	6	7	6	13	5	1	4	5	26	10	20	23
	E.	20	6	5	7	10	9	19	11	11	5	24	15	39	40	41	22
	N. E.	6	2	2	10	5	2	5	11	6	8	12	3	18	26	11	17
	Calm.	3	9	2	3	4	0	10	10	8	8	4	0	20	20	12	9
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
rlington, Vt	N.	28	16	10	18	22	15	27	26	23	19	19	25	68	61	69	50
	N. W.	6	8	12	4	3	14	5	5	4	6	3	1	24	13	15	19
	W.	11	8	11	10	7	4	6	7	5	2	4	7	17	11	26	28
	S. W.	7	4	2	4	2	6	7	6	8	12	3	4	19	23	15	8
	S.	21	36	29	37	29	28	16	29	32	37	33	45	73	102	102	95
	S. E.	0	4	3	4	0	1	4	4	1	6	6	2	9	13	6	7
	E.	7	8	9	3	2	3	2	2	6	5	13	3	7	24	18	14
	N. E.	1	3	6	2	0	2	0	0	4	1	4	0	2	9	4	8
	Calm.	12	3	11	11	19	20	23	14	7	5	8	3	57	20	18	41
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Statement showing how many times the wind was observed blowing, &c.—Continued.

tation.	Wind.	October, '72.	November.	December.	January, '73.	February.	March.	April.	May.	June.	July.	August.	September.	Spring.	Summer.	Autumn.	Winter.
Cairo, Ill	N.	18	12	14	16	10	9	4	9	4	4	13	12	22	21	42	40
	N. W.	9	13	18	11	11	15	10	4	6	7	2	7	29	15	29	40
	W.	3	12	6	14	12	10	15	12	6	7	5	1	37	18	16	32
	S. W.	4	5	5	7	4	10	10	6	7	11	8	7	26	26	16	16
	S.	17	17	19	23	12	17	13	18	24	22	11	17	48	57	51	54
	S. E.	12	15	5	5	6	17	15	7	12	9	5	11	39	26	36	16
	E.	5	0	3	8	10	3	5	15	11	10	12	5	23	33	10	21
	N. E.	2	7	18	6	15	9	14	17	14	16	21	19	40	51	28	39
	0	23	9	5	3	4	3	4	5	6	7	16	11	12	29	43	12
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cape May, N. J	N.	13	8	9	5	7	3	2	6	5	8	7	15	11	20	36	21
	N. W.	20	32	37	25	37	31	24	12	9	5	6	11	67	20	63	99
	W.	12	14	14	8	4	20	11	1	7	7	2	2	32	16	28	26
	S. W.	8	6	8	4	7	7	2	5	10	9	4	11	14	23	25	19
	S.	14	12	9	14	10	20	14	26	25	41	35	22	60	101	48	33
	S. E.	10	7	1	5	2	2	7	16	10	12	9	8	25	31	25	8
	E.	6	3	4	7	2	4	20	17	11	7	24	9	41	42	18	13
	N. E.	8	3	3	15	9	6	9	10	13	3	4	12	25	20	23	27
	Calm.	2	5	8	10	6	0	1	0	0	1	2	0	1	3	7	24
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Charleston, S. C	N.	15	20	13	11	3	6	5	3	3	2	4	20	14	9	55	27
	N. W.	13	16	7	10	8	11	8	6	1	1	4	2	25	6	31	25
	W.	4	12	10	18	15	13	5	9	13	11	10	6	27	34	22	43
	S. W.	12	8	9	14	20	24	37	13	21	16	20	9	74	57	29	43
	S.	1	1	4	4	9	9	17	27	11	21	23	9	53	55	11	17
	S. E.	5	3	0	9	3	7	5	9	7	8	8	10	21	23	18	12
	E.	7	7	5	5	6	6	6	18	25	20	7	9	30	52	23	16
	N. E.	28	9	9	13	9	9	3	8	8	8	6	24	20	22	61	31
	Calm.	8	14	36	9	10	8	4	0	1	6	11	1	12	18	23	55
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Cheyenne, Wyo	N.	12	18	16	10	6	10	15	11	11	5	8	11	36	24	41	32
	N. W.	32	25	13	32	10	8	30	10	4	6	8	8	48	18	65	55
	W.	26	27	20	28	34	47	19	14	17	16	23	21	80	56	74	82
	S. W.	4	10	13	8	12	10	8	7	8	10	3	12	25	21	26	33
	S.	6	4	7	3	10	9	3	7	11	17	17	13	19	45	23	20
	S. E.	1	0	1	1	2	0	2	10	14	7	10	3	12	31	4	4
	E.	1	0	4	1	2	0	0	11	6	9	9	8	11	24	9	7
	N. E.	4	1	6	1	6	1	6	3	6	8	6	3	10	20	8	7
	Calm.	7	5	13	9	8	8	7	14	12	15	9	11	29	37	23	30
	Blank.	0	0	0	0	0	0	0	6	0	0	0	0	6	0	0	0
Chicago, Ill	N.	17	1	5	6	4	7	18	23	11	14	12	10	48	37	28	15
	N. W.	9	1	14	12	3	6	5	1	7	5	7	15	12	19	25	29
	W.	13	28	18	10	20	26	11	5	1	3	2	7	42	6	48	48
	S. W.	11	27	25	25	22	9	13	15	20	26	20	35	37	66	73	72
	S.	17	16	16	20	15	15	6	12	12	10	4	4	33	26	37	51
	S. E.	6	15	3	2	4	13	0	3	9	9	6	9	16	24	30	9
	E.	7	2	4	7	6	3	10	11	7	9	9	4	24	25	13	17
	N. E.	10	0	2	10	9	9	17	16	23	17	22	6	42	62	16	21
	Calm.	3	0	6	1	1	5	10	7	0	0	11	0	22	11	3	8
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cincinnati, Ohio	N.	13	12	18	10	8	10	6	12	5	6	21	16	28	32	41	36
	N. W.	17	14	17	14	19	15	17	16	9	17	5	18	38	31	49	50
	W.	1	14	9	19	10	18	17	7	11	10	6	5	42	27	20	38
	S. W.	10	19	11	13	13	9	18	13	14	11	11	9	40	36	38	37
	S.	16	10	8	14	12	18	11	11	13	21	7	10	40	41	36	34
	S. E.	5	7	2	4	4	12	7	18	15	12	7	15	37	34	27	10
	E.	6	5	5	13	8	3	6	9	14	4	11	5	18	29	16	26
	N. E.	5	4	7	5	7	6	7	17	9	11	25	7	30	45	16	19
	Calm.	20	5	15	1	3	2	1	0	0	1	0	5	3	1	30	19
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Cleveland, Ohio	N.	3	1	3	8	1	2	8	10	16	17	13	7	20	46	11	12
	N. W.	20	5	4	7	2	6	5	9	7	12	7	14	20	26	39	13
	W.	2	12	23	9	26	28	14	9	6	14	2	9	51	22	23	58
	S. W.	12	32	21	22	10	10	15	7	6	13	12	11	32	31	55	53
	S.	9	10	16	14	11	13	5	8	12	13	9	18	26	34	37	41
	S. E.	25	21	14	18	9	15	7	23	20	11	20	22	45	51	68	41
	E.	2	2	4	4	7	1	7	8	5	3	8	3	16	16	7	15
	N. E.	11	2	3	7	6	9	16	18	17	10	22	6	43	49	19	16
	Calm.	9	5	5	4	11	9	13	1	1	0	0	0	23	1	14	20
	Blank.	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1

Statement showing how many times the wind was observed blowing, &c.—Continued.

Station.	Wind.	October, '72.	November.	December.	January, '73.	February.	March.	April.	May.	June.	July.	August.	September.	Spring.	Summer.	Autumn.	Winter.
Corinne, Utah	N.	12	20	32	15	32	21	19	18	23	29	23	34	58	75	66	79
	N. W.	31	17	11	23	20	34	25	17	14	10	6	8	76	30	56	54
	W.	5	1	3	7	2	5	2	6	4	1	0	1	13	5	7	12
	S. W.	7	15	11	8	3	4	3	9	4	6	10	6	16	20	28	22
	S.	22	20	19	22	18	13	18	24	30	27	28	24	55	85	66	59
	S. E.	5	2	1	2	0	7	4	5	4	5	7	4	16	16	11	3
	E.	3	2	2	2	1	1	10	3	2	0	0	1	14	2	6	5
	N. E.	2	8	5	2	1	2	2	3	1	4	3	1	7	8	11	8
	Calm.	6	5	9	12	7	6	7	8	8	11	16	11	21	35	22	28
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Davenport, Iowa	N.	3	2	4	7	3	3	3	5	7	9	11	15	11	27	20	14
	N. W.	19	14	23	21	21	35	18	11	4	12	4	14	64	20	47	65
	W.	6	23	12	13	14	14	5	4	10	6	3	9	23	19	38	39
	S. W.	18	18	21	14	15	13	21	18	27	24	30	19	52	81	55	50
	S.	5	7	4	7	2	6	1	2	2	9	9	11	9	20	23	13
	S. E.	6	13	6	4	7	12	14	12	12	7	6	7	38	25	26	17
	E.	10	2	3	2	2	2	7	14	8	11	16	3	23	35	15	7
	N. E.	3	1	11	11	11	6	19	24	3	9	12	2	49	24	6	33
	Calm.	23	10	8	14	9	2	2	3	17	6	2	10	7	25	43	31
	Blank.	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Denver, Colo	N.	4	3	10	9	12	7	16	11	10	12	12	11	34	34	18	31
	N. W.	3	10	7	16	4	14	9	6	4	2	2	8	29	8	21	27
	W.	3	8	2	10	8	8	2	3	1	4	6	3	13	11	14	20
	S. W.	17	6	9	12	9	3	5	3	1	4	6	0	11	11	23	30
	S.	27	25	20	14	10	22	17	17	25	23	29	27	56	77	79	44
	S. E.	5	2	2	3	2	11	7	10	8	7	6	6	28	21	13	7
	E.	5	5	2	0	3	3	5	8	11	13	5	7	16	29	17	5
	N. E.	10	8	12	7	9	7	13	14	14	9	9	12	34	32	30	28
	Calm.	19	23	29	22	27	18	16	21	16	19	18	16	55	53	58	78
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Detroit, Mich	N.	6	2	8	12	3	16	2	4	5	2	6	5	22	13	13	23
	N. W.	18	14	21	11	22	21	17	8	8	12	4	17	46	24	49	54
	W.	7	34	28	18	18	16	8	8	15	27	13	18	32	55	59	64
	S. W.	25	27	23	24	16	13	15	14	14	20	12	23	42	46	75	63
	S.	2	1	0	5	2	7	6	1	11	4	6	11	14	21	14	7
	S. E.	11	10	1	4	6	6	8	17	15	11	16	5	31	42	26	11
	E.	12	2	7	11	6	2	14	27	16	11	18	4	43	45	18	24
	N. E.	12	0	5	8	10	9	16	13	3	5	18	6	38	26	18	23
	Calm.	0	0	0	0	1	3	4	1	3	1	0	1	8	4	1	1
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dubuque, Iowa*	N.	..	..	..	..	..	..	..	..	..	..	7	7	..	..	..	..
	N. W.	..	..	..	..	..	..	..	..	..	..	22	28	..	..	..	..
	W.	..	..	..	..	..	..	..	..	..	..	7	5	..	..	..	..
	S. W.	..	..	..	..	..	..	..	..	..	..	8	7	..	..	..	..
	S.	..	..	..	..	..	..	..	..	..	..	7	15	..	..	..	..
	S. E.	..	..	..	..	..	..	..	..	..	..	12	4	..	..	..	..
	E.	..	..	..	..	..	..	..	..	..	..	10	4	..	..	..	..
	N. E.	..	..	..	..	..	..	..	..	..	..	7	1	..	..	..	..
	Calm.	..	..	..	..	..	..	..	..	..	..	13	19	..	..	..	..
	Blank.	..	..	..	..	..	..	..	..	..	..	0	0	..	..	..	..
Duluth, Minn	N.	11	5	3	7	3	7	8	3	2	5	6	6	18	13	22	13
	N. W.	19	20	16	13	11	23	14	12	10	12	14	17	49	36	56	40
	W.	4	7	9	10	7	6	2	4	4	7	4	8	12	15	19	26
	S. W.	18	29	41	14	19	10	3	3	10	8	5	15	16	23	62	74
	S.	2	2	5	2	3	1	2	0	0	1	0	5	3	1	9	10
	S. E.	2	1	0	2	1	0	0	0	0	1	1	4	0	2	7	3
	E.	1	3	2	3	2	0	0	0	0	3	4	1	0	7	5	7
	N. E.	22	13	2	25	23	24	36	48	34	34	39	17	108	107	52	50
	Calm.	14	10	15	17	15	22	25	23	30	22	20	17	77	72	41	47
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Eastport, Me.†	N.	..	..	..	..	..	..	10	11	6	1	14	13	..	21	..	..
	N. W.	..	..	..	..	..	..	16	24	20	13	10	10	..	43	..	..
	W.	..	..	..	..	..	..	11	3	2	3	9	9	..	14	..	..
	S. W.	..	..	..	..	..	..	6	14	12	21	11	13	..	44	..	..
	S.	..	..	..	..	..	..	9	21	20	34	28	32	..	82	..	..
	S. E.	..	..	..	..	..	..	7	6	7	7	1	1	..	15	..	..
	E.	..	..	..	..	..	..	5	0	1	2	1	0	..	4	..	..
	N. E.	..	..	..	..	..	..	20	13	18	5	8	5	..	31	..	..
	Calm.	..	..	..	..	..	..	6	2	4	7	11	7	..	22	..	..
	Blank.	..	..	..	..	..	..	0	0	0	0	0	0	..	0	..	..

*Observations began in August.

†Observations began with April

Statement showing how many times the wind was observed blowing, &c.—Continued.

Station.	Wind.	October, '72.	November.	ember.	January, '73.	February.	March.	April.	May.	June.	July.	August.	September.	Spring.	Summer.	Autumn.	Winter.
Erie, Pa.*	N.	....	....	....	....	....	....	....	....	2	4	5	5	....	11	....	....
	N. W.	....	....	....	....	....	....	....	....	8	6	7	11	....	21	....	....
	W.	....	....	....	....	....	....	....	....	11	19	10	14	....	40	....	....
	S. W.	....	....	....	....	....	....	....	....	14	21	7	4	....	42	....	....
	S.	....	....	....	....	....	....	....	....	14	17	15	30	....	46	....	....
	S. E.	....	....	....	....	....	....	....	....	15	5	11	11	....	31	....	....
	E.	....	....	....	....	....	....	....	....	1	1	8	2	....	10	....	....
	N. E.	....	....	....	....	....	....	....	....	14	11	21	10	....	46	....	....
	Calm.	....	....	....	....	....	....	....	....	11	9	9	3	....	29	....	....
	Blank.	....	....	....	....	....	....	....	....	0	0	0	0	....	0	....	....
Escanaba, Mich	N.	7	4	6	20	12	30	43	21	12	17	15	10	94	44	21	38
	N. W.	14	5	24	12	10	11	3	3	3	5	4	21	17	12	40	46
	W.	5	14	33	13	14	9	4	4	7	6	7	15	17	20	34	60
	S. W.	21	30	5	4	1	2	1	1	2	4	14	19	4	20	70	10
	S.	23	7	2	13	12	16	16	24	33	34	26	13	56	93	43	27
	S. E.	15	6	1	0	16	9	2	6	8	8	2	7	17	18	28	17
	E.	4	5	0	4	6	9	2	15	13	6	6	1	26	25	10	10
	N. E.	2	6	3	12	5	1	14	18	10	8	14	4	33	32	12	20
	Calm.	2	13	19	15	8	6	5	1	2	5	5	0	12	12	15	42
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fort Benton, Mont	N.	4	6	4	5	5	4	11	6	2	10	7	11	21	19	21	14
	N. W.	9	8	5	7	5	9	12	10	7	7	7	8	31	21	25	17
	W.	8	5	15	10	8	17	9	11	18	16	12	24	37	46	37	33
	S. W.	33	29	23	27	28	35	22	13	30	19	22	12	70	71	74	78
	S.	2	1	1	1	2	4	2	6	2	5	3	2	12	10	5	4
	S. E.	1	1	0	0	0	0	1	1	2	3	1	1	2	6	3	0
	E.	0	1	2	2	2	3	10	19	9	9	21	16	32	39	17	6
	N. E.	12	5	8	15	3	7	5	6	5	16	10	6	18	31	23	26
	Calm.	24	34	35	26	31	14	18	21	15	8	10	10	53	33	68	92
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fort Gibson, Ind. T.†	N.	....	....	....	....	....	....	4	3	5	1	3	2	....	9	....	....
	N. W.	....	....	....	....	....	....	15	10	21	13	9	19	....	43	....	....
	W.	....	....	....	....	....	....	19	9	6	1	4	2	....	11	....	....
	S. W.	....	....	....	....	....	....	5	3	6	5	10	2	....	21	....	....
	S.	....	....	....	....	....	....	2	3	8	6	7	4	....	21	....	....
	S. E.	....	....	....	....	....	....	20	19	4	28	14	23	....	46	....	....
	E.	....	....	....	....	....	....	12	24	23	23	17	19	....	63	....	....
	N. E.	....	....	....	....	....	....	4	12	17	8	15	6	....	40	....	....
	Calm.	....	....	....	....	....	....	9	10	0	8	14	13	....	22	....	....
	Blank.	....	....	....	....	....	....	0	0	0	0	0	0	....	0	....	....
Fort Sully, Dak	N.	3	4	5	7	4	8	20	8	10	10	5	11	36	25	18	16
	N. W.	24	33	17	24	18	23	28	14	10	9	16	19	65	35	76	59
	W.	11	17	21	12	14	11	5	5	6	6	7	10	21	19	38	47
	S. W.	4	3	1	4	3	5	3	5	7	2	1	2	13	10	9	8
	S.	4	1	2	0	2	2	2	3	2	4	2	5	7	8	10	4
	S. E.	19	4	8	9	5	11	8	14	26	26	31	16	33	83	39	22
	E.	8	10	18	15	15	19	12	27	7	9	17	6	58	33	24	48
	N. E.	1	1	1	6	7	4	1	7	8	15	3	2	12	26	4	14
	Calm.	19	17	20	16	16	10	11	10	14	12	11	19	31	37	55	52
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Galveston, Tex	N.	18	30	21	16	8	12	11	7	2	0	6	19	30	8	67	45
	N. W.	2	6	8	15	6	3	10	5	3	7	5	0	18	15	8	29
	W.	2	5	0	0	4	0	3	0	2	3	4	1	3	9	8	4
	S. W.	0	2	0	1	1	1	2	3	10	4	5	1	6	19	3	2
	S.	3	11	10	7	15	19	17	23	46	46	20	21	59	112	35	32
	S. E.	26	20	14	28	30	40	33	41	18	11	21	20	114	50	66	72
	E.	8	6	16	9	10	10	3	8	3	6	8	10	21	17	24	35
	N. E.	29	9	19	12	6	3	0	6	0	6	9	13	9	15	51	37
	Calm.	5	1	5	5	4	4	13	0	6	10	15	5	17	31	11	14
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Haven, Mich	N.	12	0	10	13	0	9	3	5	0	5	3	2	17	8	14	23
	N. W.	13	22	19	4	4	16	16	9	11	18	13	14	41	42	49	27
	W.	11	15	23	15	31	15	7	14	16	10	15	9	36	41	35	69
	S. W.	14	20	7	8	7	13	22	17	22	25	12	14	52	59	48	22
	S.	4	5	5	17	13	13	1	4	7	6	9	14	18	22	23	35
	S. E.	12	14	4	8	4	9	2	10	5	4	0	5	21	9	31	16
	E.	11	4	11	9	12	5	19	20	15	6	13	4	44	34	19	32
	N. E.	7	5	6	14	7	7	15	5	0	3	3	12	27	6	24	27
	Calm.	9	5	8	5	6	6	5	9	14	16	25	16	20	55	30	19
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

* Observations began May 25.

† Observations began with April.

Statement showing how many times the wind was observed blowing, &c.—Continued.

Station.	Wind.	October, '72.	November.	December.	January, '73.	February.	March.	April.	May.	June.	July.	August.	September.	Spring.	Summer.	Autumn.	Winter.
Indianapolis, Ind.	N.	12	2	7	4	8	3	2	7	7	8	15	15	12	30	29	19
	N. W.	15	15	19	14	12	18	11	5	6	11	6	15	24	23	45	45
	W.	5	23	12	17	16	20	13	11	6	8	4	7	44	18	35	45
	S. W.	12	16	11	19	16	9	20	15	18	19	12	9	44	49	37	46
	S.	21	12	17	11	8	17	11	10	20	25	10	18	38	55	51	36
	S. E.	8	11	2	5	9	10	8	8	8	6	2	6	26	16	20	16
	E.	1	1	3	5	2	5	10	13	12	5	5	2	28	22	4	10
	N. E.	8	3	12	4	5	5	5	14	6	5	13	3	24	21	14	21
	Calm.	15	7	10	14	8	6	9	10	7	6	26	15	25	39	37	32
	Blank.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Indianola, Tex	N.	37	34	34	22	15	14	19	9	0	4	5	6	42	9	77	71
	N. W.	3	6	7	8	4	1	5	2	2	1	4	2	8	7	11	19
	W.	0	5	0	7	5	0	0	0	3	2	2	1	0	7	6	12
	S. W.	0	3	1	0	4	2	4	2	9	8	5	1	8	22	4	5
	S.	1	3	4	7	7	11	23	16	42	43	21	22	50	106	26	18
	S. E.	21	12	7	19	25	43	30	50	26	15	33	20	123	74	53	51
	E.	27	17	18	9	11	8	2	9	5	8	12	16	19	25	60	38
	N. E.	4	8	21	20	13	11	6	5	1	9	10	19	22	20	31	54
	Calm.	0	2	1	1	0	3	1	0	2	3	1	3	4	6	5	2
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jacksonville, Fla.	N.	20	14	20	14	4	10	4	4	4	5	0	16	18	9	50	38
	N. W.	17	22	16	15	8	11	6	9	6	3	4	9	26	13	48	39
	W.	10	2	6	9	13	9	8	7	9	5	2	1	24	16	13	28
	S. W.	3	10	19	11	22	22	32	10	22	15	14	11	64	51	24	52
	S.	1	4	5	14	15	12	16	10	16	21	24	4	38	61	9	34
	S. E.	0	2	1	5	5	8	11	17	9	17	19	8	36	45	10	11
	E.	9	7	1	2	1	5	3	15	9	7	17	5	23	33	21	4
	N. E.	26	23	24	21	8	14	8	12	14	15	7	33	34	36	82	53
	Calm.	6	6	4	1	8	2	2	9	1	5	6	3	13	12	15	13
	Blank.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Keokuk, Iowa	N.	6	1	9	9	7	5	8	7	6	6	3	7	20	15	14	25
	N. W.	15	19	14	16	15	20	14	7	13	11	9	19	41	33	53	45
	W.	7	23	15	22	14	15	10	8	12	8	2	5	33	22	35	51
	S. W.	21	13	13	8	6	7	10	6	11	11	18	15	23	40	49	27
	S.	8	12	10	10	8	10	8	9	12	14	10	20	27	36	40	28
	S. E.	8	10	6	1	5	13	11	12	20	12	15	8	36	47	26	12
	E.	7	6	3	7	12	5	10	20	6	1	9	2	35	16	15	22
	N. E.	5	0	6	6	6	4	6	14	2	8	11	2	24	21	7	18
	Calm.	16	6	17	14	11	14	13	10	18	12	16	12	37	46	34	42
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Key West, Fla	N.	21	33	23	28	17	17	17	12	1	0	5	3	46	6	57	68
	N. W.	5	4	5	8	1	5	11	4	2	0	0	1	20	2	10	14
	W.	0	0	2	2	2	2	0	5	2	5	0	2	7	7	2	6
	S. W.	1	0	0	0	8	4	5	7	11	15	3	10	16	29	11	8
	S.	1	4	5	7	5	2	2	7	5	3	4	3	11	12	8	17
	S. E.	3	11	5	8	13	7	23	21	16	5	7	10	51	28	24	26
	E.	13	9	15	15	25	25	22	26	40	49	49	35	73	139	57	55
	N. E.	47	27	38	23	11	30	9	8	3	15	23	26	47	41	100	72
	Calm.	2	2	0	2	2	1	1	3	10	1	2	0	5	13	4	4
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Knoxville, Tenn.	N.	17	15	26	21	12	7	7	6	3	16	20	13	20	39	45	59
	N. W.	8	9	7	10	4	7	7	8	2	4	6	3	22	12	20	21
	W.	18	16	14	22	22	21	16	13	12	2	7	2	50	21	36	58
	S. W.	5	6	4	1	4	7	13	14	32	28	18	20	34	78	31	9
	S.	6	11	9	6	10	18	26	16	6	8	6	5	60	20	22	25
	S. E.	0	2	3	3	0	1	4	4	2	1	0	1	9	3	3	6
	E.	4	4	6	3	4	5	1	12	16	10	7	13	18	33	21	13
	N. E.	9	8	10	6	10	8	5	15	11	12	15	14	28	38	31	26
	Calm.	26	19	14	21	18	19	11	5	6	12	14	19	35	32	64	53
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
La Crosse, Wis. *	N.	....	5	6	14	3	12	8	8	5	7	13	13	28	25	....	23
	N. W.	....	22	17	13	14	22	14	10	9	12	9	8	46	30	....	44
	W.	....	7	8	3	5	2	0	2	5	3	5	3	4	13	....	16
	S. W.	....	15	18	13	14	9	5	12	15	15	12	22	26	42	....	45
	S.	....	12	10	15	17	12	9	11	18	16	18	17	32	52	....	42
	S. E.	....	16	21	14	17	25	14	21	26	29	18	17	60	73	....	52
	E.	....	0	0	1	1	0	0	1	0	1	0	0	1	1	....	2
	N. E.	....	9	10	16	8	8	37	24	7	9	6	8	69	22	....	34
	Calm.	....	4	3	4	5	3	3	4	5	1	12	2	10	18	....	12
	Blank.	....	0	0	0	0	0	0	0	0	0	0	0	0	0	....	0

* Observations began October 15, 1872.

Statement showing how many times the wind was observed blowing, &c.—Continued.

Station.	Wind.	October, '72.	November.	December.	January, '73.	February.	March.	April.	May.	June.	July.	August.	September.	Spring.	Summer.	Autumn.	Winter.
Lake City, Fla	N.	12	21	12	16	1	7	3	5	6	2	2	6	15	10	39	29
	N. W.	10	14	13	13	12	9	8	7	6	4	7	4	24	17	28	38
	W.	3	4	3	6	11	10	21	15	19	12	6	11	46	37	18	20
	S. W.	1	8	12	10	24	18	20	13	17	17	27	4	51	61	13	46
	S.	0	3	4	5	6	3	8	16	8	10	19	4	27	37	7	15
	S. E.	4	3	5	8	6	7	8	13	9	10	14	13	28	33	20	19
	E.	21	8	7	11	8	10	4	5	11	16	4	20	19	31	49	26
	N. E.	34	16	17	13	5	12	6	11	3	3	3	21	29	9	71	35
	Calm.	8	13	20	11	11	17	12	8	11	19	11	7	37	41	28	42
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leavenworth, Kans	N.	12	16	25	23	14	17	20	11	17	16	12	19	48	45	47	62
	N. W.	5	23	19	15	18	21	23	12	3	2	1	4	56	6	32	52
	W.	1	7	1	7	2	3	3	5	0	0	2	0	11	2	8	10
	S. W.	1	5	3	1	5	8	4	4	7	8	6	3	16	21	9	9
	S.	21	21	16	18	12	22	18	19	34	35	30	39	59	99	81	46
	S. E.	12	11	11	7	12	7	9	18	8	10	19	5	34	37	28	30
	E.	1	3	3	6	8	3	2	11	2	2	6	6	16	10	10	17
	N. E.	4	2	8	4	8	9	7	4	4	9	3	8	20	16	14	20
	Calm.	36	2	7	12	5	3	6	9	15	11	14	6	18	40	44	24
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lexington, Ky *	N.	...	4	9	3	4	1	4	7	4	5	20	16	12	29	....	16
	N. W.	....	8	11	13	12	18	11	4	6	6	6	7	33	18	....	36
	W.	....	15	15	16	18	18	19	13	12	10	4	3	50	26	....	49
	S. W.	....	16	11	9	11	12	21	18	24	23	12	18	51	59	....	31
	S.	....	21	26	24	13	23	16	16	19	27	13	23	55	59	....	63
	S. E.	....	5	1	11	5	11	4	14	4	10	11	5	29	25	....	17
	E.	....	5	3	4	8	5	5	7	12	4	8	6	17	24	....	15
	N. E.	....	12	14	10	6	2	8	13	7	5	16	11	23	28	....	30
	Calm.	....	4	4	3	7	3	2	1	2	3	3	1	6	8	....	14
	Blank.	....	0	0	0	0	0	0	0	0	0	0	0	0	0	....	0
Louisville, Ky	N.	10	2	7	3	4	1	3	4	6	10	23	23	8	39	35	14
	N. W.	15	18	25	22	22	20	14	8	12	12	9	9	42	33	42	69
	W.	6	14	11	12	10	19	14	8	6	9	0	4	41	15	24	33
	S. W.	8	13	6	16	7	11	18	15	10	17	14	15	44	41	36	29
	S.	19	12	13	15	8	15	16	14	21	25	16	18	45	62	49	36
	S. E.	7	15	8	12	9	14	7	7	3	5	1	0	28	9	22	29
	E.	2	6	2	1	4	1	7	6	5	3	2	4	14	10	12	7
	N. E.	3	7	13	8	10	3	4	18	8	5	14	7	25	27	17	31
	Calm.	23	3	8	4	10	9	7	13	19	7	14	10	29	40	36	22
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lynchburgh, Va	N.	3	3	7	4	2	0	2	5	3	5	4	7	7	12	13	13
	N. W.	7	4	13	6	12	15	11	8	1	8	4	6	34	13	17	31
	W.	18	23	13	9	20	25	17	7	5	14	9	4	49	28	45	42
	S. W.	15	18	34	22	19	18	22	16	32	19	12	10	56	63	43	75
	S.	10	10	4	9	2	4	9	6	9	5	3	6	19	17	26	15
	S. E.	4	1	3	1	2	0	1	8	1	2	5	1	9	8	6	6
	E.	2	4	2	5	7	3	6	7	4	7	4	10	16	15	16	14
	N. E.	17	9	10	21	13	7	11	21	12	9	22	7	39	43	33	44
	Calm.	17	18	7	16	7	21	11	15	23	24	30	39	47	77	74	30
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Marquette, Mich	N.	1	3	0	5	4	5	18	12	8	1	7	8	35	16	12	9
	N. W.	10	7	12	23	18	36	26	17	10	20	16	19	79	46	36	53
	W.	28	29	47	18	16	8	3	3	8	8	10	17	14	26	74	81
	S. W.	11	17	16	11	11	5	3	2	6	12	15	12	10	33	40	38
	S.	6	8	2	7	6	14	4	1	7	7	2	9	19	16	23	15
	S. E.	17	11	4	6	8	5	6	12	17	14	11	10	23	42	38	18
	E.	5	9	1	4	6	5	8	11	8	8	7	7	24	23	21	11
	N. E.	10	5	0	6	4	5	6	4	4	2	7	3	15	13	18	10
	Calm.	5	1	11	13	11	10	16	31	22	21	18	5	57	61	11	35
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Memphis, Tenn	N.	14	15	16	12	8	4	6	3	2	7	16	13	13	25	42	36
	N. W.	14	11	18	15	12	19	12	8	8	7	15	15	39	30	40	45
	W.	3	12	6	10	15	8	13	11	9	6	4	5	32	19	20	31
	S. W.	11	10	9	11	10	11	20	15	16	21	16	13	46	53	34	30
	S.	15	19	13	11	5	11	9	18	23	21	3	9	38	47	43	29
	S. E.	7	6	4	11	13	21	18	9	9	9	7	8	48	25	21	28
	E.	5	5	7	2	11	2	7	9	7	5	8	2	18	20	12	29
	N. E.	11	7	16	14	10	13	4	12	5	13	20	20	29	38	38	40
	Calm.	13	5	4	7	0	4	1	8	11	4	4	5	13	19	23	11
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

* Observations began October 11, 1872.

Statement showing how many times the wind was observed blowing, &c.—Continued.

Station.	Wind.	October, '72.	November.	December.	January, '73.	February.	March.	April.	May.	June.	July.	August.	September.	Spring.	Summer.	Autumn.	Winter.
ilwaukee, Wis.....	N.	8	0	5	7	3	1	7	9	2	6	4	5	17	12	13	15
	N. W.	20	19	32	22	17	32	6	6	13	10	15	23	44	38	62	71
	W.	16	33	27	21	26	9	9	7	13	13	9	12	25	35	61	74
	S. W.	13	15	17	18	10	14	11	6	13	9	11	16	31	33	44	45
	S.	4	5	0	5	5	9	0	3	3	6	4	7	12	13	16	10
	S. E.	13	14	0	4	10	13	14	8	12	18	16	19	35	46	46	14
	E.	7	1	1	6	2	1	9	14	13	12	9	2	24	34	10	9
	N. E.	5	2	1	7	4	8	28	31	8	6	18	4	67	32	11	12
	Calm.	7	1	8	3	7	6	6	9	13	13	7	2	21	33	10	18
	Blank.	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
obile, Ala..........	N.	32	32	25	24	13	13	13	7	9	15	6	20	33	30	84	62
	N. W.	3	5	8	14	7	9	11	5	1	5	6	7	25	12	15	29
	W.	0	3	1	2	8	1	5	5	10	4	7	2	11	21	5	11
	S. W.	5	0	1	4	2	7	10	6	21	14	8	3	23	43	8	7
	S.	5	10	11	10	22	33	31	32	20	18	19	9	96	57	24	43
	S. E.	12	9	5	8	9	6	6	10	6	8	7	3	22	21	24	22
	E.	8	8	1	5	3	3	2	4	6	5	13	16	9	24	32	9
	N. E.	17	5	13	12	6	8	1	6	8	10	11	19	15	29	41	31
	Calm.	11	18	28	14	14	13	11	18	12	14	13	11	42	39	40	56
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ontgomery, Ala ...	N.	16	4	7	8	2	4	2	4	3	2	4	7	10	9	27	17
	N. W.	15	25	24	28	23	24	6	1	10	8	7	14	31	25	54	75
	W.	4	4	1	8	10	6	20	12	8	9	10	9	38	27	17	19
	S. W.	0	4	5	0	3	5	12	15	13	14	3	6	32	30	10	8
	S.	1	3	2	5	9	10	18	12	7	9	8	2	40	24	6	16
	S. E.	3	12	12	15	13	18	13	23	22	18	18	11	54	58	26	40
	E.	15	10	9	7	9	9	3	10	10	8	11	14	22	29	39	25
	N. E.	7	4	5	1	1	2	5	3	3	4	4	11	10	11	22	7
	Calm.	32	24	28	21	15	15	11	13	14	21	28	16	39	63	72	64
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ontreal, Canada ...	N.	2	6	2	6	4	4	8	15	3	6	5	1	27	14	9	12
	N. W.	12	0	0	1	1	7	5	2	3	3	1	5	14	7	17	2
	W.	31	47	60	41	33	46	37	30	35	60	30	56	113	125	134	134
	S. W.	3	9	7	12	4	6	0	2	4	6	12	6	8	22	18	23
	S.	17	9	7	5	2	10	3	19	20	7	16	10	32	43	36	14
	S. E.	4	2	3	0	1	1	0	2	2	1	3	4	3	6	10	4
	E.	0	2	1	0	0	1	5	4	1	2	7	1	10	10	3	1
	N. E.	24	15	10	26	38	18	32	19	22	8	18	6	69	48	45	74
	Calm.	0	0	3	2	1	0	0	0	0	0	1	1	0	1	1	6
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
organtown, W. Va*	N.	....	....	....	....	5	4	5	15	6	7	11	6	24	24	....	....
	N. W.	....	....	....	....	12	10	7	5	5	4	11	6	23	20	....	....
	W.	....	....	....	....	19	31	22	5	10	8	5	5	58	23	....	....
	S. W.	....	....	....	....	21	22	16	9	13	18	8	13	47	39	....	....
	S.	....	....	....	....	5	4	8	12	15	21	10	7	24	46	....	....
	S. E.	....	....	....	....	2	2	4	6	6	3	2	5	12	11	....	....
	E.	....	....	....	....	3	3	6	6	2	0	3	1	15	5	....	....
	N. E.	....	....	....	....	8	6	11	9	5	2	7	4	26	14	....	....
	Calm.	....	....	....	....	9	9	11	26	28	30	36	43	46	94	....	....
	Blank.	....	....	....	....	0	2	0	0	0	0	0	0	2	0	....	....
ount Washington, N. H.	N.	11	1	5	6	2	0	7	13	5	4	10	1	20	19	13	13
	N. W.	18	17	21	11	21	28	14	23	41	34	42	62	65	117	97	53
	W.	22	34	35	38	32	35	45	39	18	21	17	9	119	56	65	105
	S. W.	17	15	6	28	11	15	5	4	5	13	3	14	24	21	46	45
	S.	1	2	6	6	4	7	4	6	1	7	0	0	17	8	3	16
	S. E.	2	14	11	2	7	6	8	3	1	6	9	1	17	16	17	20
	E.	2	0	2	0	0	0	3	3	3	4	2	0	6	9	2	2
	N. E.	14	5	4	1	6	2	2	0	8	0	4	0	4	12	19	11
	Calm.	6	2	3	1	1	0	2	2	8	4	6	3	4	18	11	5
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ashville, Tenn	N.	16	8	8	9	1	4	2	2	0	6	9	10	8	15	34	18
	N. W.	17	9	16	7	16	15	8	4	3	5	10	13	27	18	39	39
	W.	4	19	22	23	13	13	22	13	9	5	11	4	48	25	27	58
	S. W.	8	8	4	6	10	6	13	7	6	6	0	5	26	12	21	20
	S.	7	12	8	14	8	17	20	12	6	11	2	5	49	19	24	30
	S. E.	11	12	10	10	7	9	2	4	8	8	1	7	15	17	30	27
	E.	4	6	5	8	8	3	6	0	7	8	4	5	15	19	15	21
	N. E.	3	8	10	6	4	0	4	11	4	3	4	3	15	11	14	20
	Calm.	23	8	10	10	17	26	13	34	47	41	52	38	73	140	69	37
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

* Observations began January 27, 1873.

Statement showing how many times the wind was observed blowing, &c.—Continued.

Station.	Wind.	October, '72.	November.	December.	January, '72.	February.	March.	April.	May.	June.	July.	August.	September.	Spring.	Summer.	Autumn.	Winter.
New Haven, Conn[*]..	N.	....	....	....	27	20	11	15	12	8	10	9	8	38	27	....	....
	N. W.	....	....	....	18	18	24	22	15	10	11	10	17	61	31	....	....
	W.	....	....	....	19	12	14	8	9	6	5	5	1	31	16	....	....
	S. W.	....	....	....	14	14	7	7	8	16	16	12	17	32	44	....	....
	S.	....	....	....	4	2	6	8	20	16	30	21	16	34	67	....	....
	S. E.	....	....	....	3	3	8	6	9	9	5	4	7	23	18	....	....
	E.	....	....	....	0	0	0	5	5	5	2	2	3	10	9	....	....
	N. E.	....	....	....	5	8	10	13	13	9	7	19	10	36	35	....	....
	Calm.	....	....	....	3	7	3	6	2	11	7	11	11	11	29	....	....
	Blank.	....	....	....	0	0	0	0	0	0	0	0	0	0	0	....	....
New London, Conn..	N.	13	8	11	16	18	10	8	10	11	11	21	23	28	43	44	
	N. W.	24	27	41	29	26	23	30	18	9	10	4	10	71	23	61	
	W.	3	5	14	7	12	12	5	2	4	2	2	2	19	8	10	
	S. W.	14	19	10	12	12	21	16	17	26	24	16	17	54	66	50	
	S.	1	6	2	3	2	6	3	5	4	11	7	6	14	22	13	
	S. E.	11	6	4	10	3	9	8	19	18	17	14	12	36	49	29	
	E.	1	1	1	2	4	2	10	8	5	2	4	1	20	11	3	
	N. E.	16	4	4	8	5	8	6	7	7	6	11	7	21	24	27	
	Calm.	10	8	2	6	2	2	4	7	6	10	14	12	13	30	30	
	Blank.	0	6	4	0	0	0	0	0	0	0	0	0	0	0	6	
New Orleans, La	N.	17	18	23	17	9	12	12	6	0	5	3	14	30	8	49	
	N. W.	8	13	8	17	4	7	12	6	5	10	12	6	25	27	27	
	W.	0	6	3	6	10	6	6	7	11	10	6	2	19	27	8	
	S. W.	1	4	4	4	12	8	16	6	18	9	7	1	30	34	6	
	S.	0	3	7	5	13	16	7	18	14	11	9	3	41	34	6	
	S. E.	8	11	13	24	14	17	25	25	23	26	18	13	67	67	32	
	E.	32	18	22	7	12	18	7	7	10	8	14	22	32	32	72	
	N. E.	18	14	11	11	7	6	5	9	4	7	9	22	20	20	54	
	Calm.	9	3	2	2	3	3	0	9	4	8	15	7	12	27	19	
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
New York, N. Y	N.	1	0	5	4	3	2	3	4	4	6	2	5	9	12	6	
	N. W.	23	17	21	16	23	20	16	15	14	12	14	18	51	40	58	
	W.	10	16	22	24	16	22	18	5	7	11	6	4	45	24	30	
	S. W.	19	32	26	16	20	26	9	15	18	21	15	22	50	54	73	
	S.	5	5	3	3	1	3	10	15	18	19	12	11	28	49	21	
	S. E.	15	10	3	6	4	10	7	13	8	10	5	8	30	23	33	
	E.	3	3	1	1	2	0	6	9	8	3	7	5	15	18	11	
	N. E.	17	5	9	22	15	9	17	15	10	6	21	12	41	37	34	
	Calm.	0	2	3	1	0	1	4	2	3	5	11	5	7	19	7	
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Norfolk, Va	N.	20	14	21	15	16	12	13	6	8	5	4	13	31	17	47	
	N. W.	9	15	10	11	14	12	11	5	8	3	1	2	28	12	26	
	W.	3	9	6	10	5	13	9	3	5	3	5	1	25	13	13	
	S. W.	10	6	18	9	10	14	11	7	17	20	15	7	32	52	23	
	S.	14	12	13	13	10	21	15	13	20	28	32	13	49	80	39	
	S. E.	14	11	3	11	7	9	11	25	9	17	10	11	45	36	36	
	E.	7	6	0	7	8	2	7	11	10	7	7	13	20	24	26	
	N. E.	10	10	11	7	4	6	10	18	12	6	11	20	34	29	40	
	Calm.	6	7	11	10	10	4	3	5	1	4	8	10	12	13	23	
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Omaha, Nebr	N.	13	4	22	29	17	24	27	17	16	15	9	20	68	40	37	
	N. W.	9	31	13	19	21	16	28	13	3	7	6	9	57	16	49	
	W.	6	12	9	2	3	3	5	0	2	2	2	3	8	6	21	
	S. W.	4	6	12	5	8	8	3	6	7	5	9	3	17	21	13	
	S.	23	13	11	11	10	19	5	8	25	28	21	24	32	74	60	
	S. E.	14	9	1	3	9	8	10	11	14	21	23	12	29	58	35	
	E.	4	2	0	3	1	2	5	7	0	1	3	4	14	4	10	
	N. E.	0	1	2	3	1	0	2	12	1	8	4	3	14	13	4	
	Calm.	20	12	23	18	14	13	5	19	22	6	16	12	37	44	44	
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Oswego, N. Y	N.	6	5	4	1	5	7	4	5	11	4	10	6	16	25	17	
	N. W.	19	23	19	13	16	20	16	11	7	9	9	25	47	25	67	
	W.	7	11	19	11	18	24	24	22	26	24	8	4	70	58	22	
	S. W.	3	14	13	13	2	5	3	5	3	9	5	10	13	17	27	
	S.	23	21	21	17	15	13	4	15	18	21	20	20	32	59	64	
	S. E.	12	5	11	22	13	16	18	16	12	9	13	15	50	34	32	
	E.	1	2	2	6	1	3	4	1	1	1	5	0	8	7	3	
	N. E.	12	2	3	8	8	3	7	9	0	3	12	4	19	15	18	
	Calm.	10	7	1	2	6	2	10	9	12	13	11	6	21	36	23	
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

[*] Observations began December 10, 1873.

Statement showing how many times the wind was observed blowing, &c.—Continued.

Station.	Wind.	October, '73.	November.	December.	January, '73.	February.	March.	April.	May.	June.	July.	August.	September.	Spring.	Summer.	Autumn.	Winter.
embina, Minn*	N.	....	2	5	....	....	2	6	2	3	5	3	5	10	11	....	....
	N. W.	....	38	23	....	....	36	42	12	29	32	18	34	90	79	....	....
	W.	....	2	2	....	....	1	0	4	2	3	2	0	5	7	....	....
	S. W.	....	7	3	....	....	5	1	2	7	6	7	6	8	20	...	....
	S.	....	3	3	....	....	1	4	4	4	3	4	0	9	11	....	....
	S. E.	....	11	9	....	....	26	17	19	24	19	29	18	62	72	....	....
	E.	....	0	0	....	....	0	1	10	3	1	1	1	11	5	....	....
	N. E.	....	1	4	....	....	3	5	21	6	9	4	7	29	19	....	....
	Calm.	....	26	19	....	....	19	14	18	12	15	25	19	51	52	....	....
	Blank.	....	0	25	....	....	0	0	1	0	0	0	0	1	0	....	....
hiladelphia, Pa	N.	8	6	9	8	6	3	10	8	2	4	8	12	21	14	26	23
	N. W.	21	32	28	21	32	37	19	13	12	16	8	10	69	36	63	81
	W.	9	17	16	19	8	17	7	6	12	19	13	3	30	44	29	43
	S. W.	16	17	21	6	13	15	15	15	21	20	21	24	45	62	57	40
	S.	5	2	3	2	0	6	6	8	8	10	4	9	20	22	16	5
	S. E.	3	4	2	3	2	2	5	8	10	9	8	8	15	27	15	7
	E.	9	1	2	9	6	4	15	15	10	6	15	8	34	31	18	17
	N. E.	20	6	12	25	13	7	9	17	14	8	15	14	33	37	40	50
	Calm.	2	5	0	0	4	2	4	3	1	1	1	2	9	3	9	4
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ittsburgh, Pa	N.	7	3	2	3	4	3	6	9	11	11	6	4	18	28	14	9
	N. W.	18	15	18	13	15	14	16	13	11	13	15	25	43	39	58	46
	W.	12	22	18	17	27	30	17	8	15	21	10	9	55	46	43	62
	S. W.	11	19	21	11	6	11	11	6	13	24	14	11	28	51	41	38
	S.	9	7	5	12	7	10	4	6	7	8	1	9	20	16	25	24
	S. E.	5	4	9	7	5	5	10	13	7	1	4	7	28	12	16	21
	E.	8	4	4	12	8	6	5	11	4	2	15	6	22	21	18	24
	N. E.	10	6	6	5	4	5	7	7	7	4	17	7	19	28	23	15
	Calm.	13	10	10	13	8	9	14	20	15	9	11	12	43	35	35	31
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ortland, Me	N.	20	17	11	9	11	7	13	4	3	4	7	9	24	14	46	31
	N. W.	11	6	14	16	11	16	13	19	15	10	12	10	48	37	27	41
	W.	15	22	24	16	15	11	7	5	6	7	5	8	23	18	45	55
	S. W.	7	16	19	21	14	30	15	17	24	29	17	22	62	70	45	54
	S.	18	17	7	2	2	2	3	21	12	8	12	13	26	32	48	11
	S. E.	5	3	2	2	0	5	7	2	7	8	10	12	14	25	20	4
	E.	5	0	0	0	3	0	3	1	3	3	1	1	4	7	6	3
	N. E.	5	2	2	12	16	13	17	12	11	7	11	3	42	29	10	30
	Calm.	7	7	14	15	12	9	12	12	9	17	18	12	33	44	26	41
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ortland, Oregon	N.	0	6	8	3	2	1	3	5	0	2	6	3	9	8	9	13
	N. W.	25	9	12	12	12	13	17	25	30	46	33	41	55	109	75	36
	W.	5	5	1	4	6	12	8	23	8	14	14	9	43	36	19	11
	S. W.	3	9	6	4	1	5	3	6	10	0	2	1	14	12	13	11
	S.	13	13	6	12	6	12	2	1	5	2	4	5	15	11	31	24
	S. E.	14	10	22	30	28	39	30	15	21	13	13	6	84	47	30	80
	E.	2	21	11	13	9	3	2	5	7	3	8	4	10	18	27	33
	N. E.	5	3	5	4	7	0	7	5	3	6	3	3	12	12	11	16
	Calm.	26	14	18	11	13	8	18	8	6	7	10	18	34	23	58	42
	Blank.	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
unta Rassa, Fla	N.	8	27	20	20	11	23	14	8	9	2	6	1	45	17	36	51
	N. W.	8	8	9	15	16	9	11	4	4	2	3	4	24	9	20	40
	W.	1	5	3	3	1	9	13	15	13	6	7	7	37	26	13	7
	S. W.	0	0	1	4	7	7	10	13	20	17	15	13	30	52	13	12
	S.	1	10	9	9	12	8	12	12	4	11	6	9	32	21	20	30
	S. E.	3	2	4	14	9	7	8	12	9	11	7	5	27	27	10	27
	E.	10	11	12	10	8	7	11	19	20	27	28	34	37	75	55	30
	N. E.	61	23	34	18	10	21	10	11	10	17	21	17	42	48	101	62
	Calm.	1	4	1	0	1	2	1	0	1	0	0	0	3	1	5	2
	Blank.	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	9
ochester, N. Y.	N.	5	1	2	1	3	0	18	4	11	12	7	6	22	30	12	6
	N. W.	19	13	14	8	8	12	14	15	24	10	12	17	41	46	49	30
	W.	13	33	41	26	36	41	26	22	8	25	14	19	89	47	65	103
	S. W.	24	23	18	15	8	13	6	9	13	24	19	31	28	56	78	41
	S.	4	12	7	15	9	5	2	9	8	6	4	5	16	18	21	31
	S. E.	12	3	6	15	10	13	11	17	6	7	14	7	41	27	22	31
	E.	6	1	2	7	4	5	10	3	12	2	10	1	18	24	8	13
	N. E.	8	4	2	4	6	3	3	14	8	7	13	4	20	28	16	12
	Calm.	2	0	1	2	0	1	0	0	0	0	0	0	1	0	2	3
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

* Observations began November 1, 1872. January and February incomplete.

Statement showing how many times the wind was observed blowing, &c.—Continued.

Station.	Wind.	October, '72.	November.	December.	January, '73.	February.	March.	April.	May.	June.	July.	August.	September.	Spring.	Summer.	Autumn.	Winter.
San Antonio, Tex....	N.	15	26	17	14	5	8	10	2	1	2	4	1	20	7	42	
	N. W.	0	1	2	8	0	1	6	6	3	0	1	0	13	4	1	
	W.	0	0	2	1	3	0	0	1	0	0	0	0	1	0	0	
	S. W.	0	1	4	1	4	3	1	1	6	3	1	6	5	10	7	
	S.	2	2	1	10	3	5	2	1	0	5	2	13	8	7	17	
	S. E.	16	9	8	15	15	32	31	20	36	40	19	22	83	95	47	
	E.	3	3	6	3	0	3	0	15	7	7	11	5	18	25	11	
	N. E.	21	9	14	6	19	8	8	20	9	8	16	18	36	33	48	
	Calm.	36	39	39	35	35	33	32	27	28	28	39	25	92	95	100	
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
San Diego, Cal.......	N.	16	8	10	4	9	14	7	4	7	10	19	13	25	36	37	
	N. W.	17	17	17	21	9	13	16	10	12	13	18	29	39	43	63	
	W.	12	10	8	7	11	14	18	23	16	33	27	26	55	76	48	
	S. W.	7	5	9	6	6	5	10	23	17	14	8	4	38	39	16	
	S.	3	8	8	3	10	10	4	17	25	18	13	12	31	56	23	
	S. E.	0	1	1	4	7	4	1	2	4	0	1	1	7	5	2	
	E.	1	11	8	8	4	3	5	1	0	0	2	1	9	2	13	
	N. E.	8	16	13	18	21	10	5	0	3	1	1	2	15	5	26	
	Calm.	29	14	19	22	7	20	24	13	6	4	4	2	57	14	45	
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
San Francisco, Cal...	N.	0	7	11	11	5	5	4	0	0	0	0	0	9	0	7	
	N. W.	5	28	12	16	14	18	10	0	0	0	0	0	28	0	33	
	W.	25	15	6	16	14	25	32	10	7	4	5	0	67	16	40	
	S. W.	38	8	8	10	16	24	24	69	72	83	85	85	117	240	131	
	S.	0	0	4	3	7	1	3	0	0	1	1	0	4	2	0	
	S. E.	0	5	6	9	9	2	2	1	1	2	1	2	5	4	7	
	E.	0	0	3	2	1	0	1	0	0	0	0	0	1	0	0	
	N. E.	1	4	3	1	2	3	4	1	0	1	0	0	8	1	5	
	Calm.	22	23	40	25	16	15	10	12	10	2	1	3	37	13	48	
	Blank.	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
Santa Fé, N. Mex ...	N.	17	29	16	42	15	20	21	18	22	13	10	6	59	45	52	
	N. W.	4	12	14	22	10	13	9	2	9	3	9	4	24	21	20	
	W.	5	2	2	2	6	5	9	14	5	5	5	3	28	15	10	
	S. W.	14	14	10	4	15	18	17	18	15	18	10	13	53	43	41	
	S.	8	4	11	2	8	5	10	11	8	15	11	8	26	34	20	
	S. E.	18	5	9	7	10	9	10	7	4	17	20	17	26	41	40	
	E.	7	11	8	1	4	10	3	9	14	12	9	16	22	35	34	
	N. E.	5	4	6	6	4	2	2	1	6	7	14	6	5	27	15	
	Calm..	15	9	17	7	12	11	9	12	7	3	5	17	32	15	41	
	Blank.	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	
Savannah, Ga	N.	16	10	8	6	2	1	5	3	6	0	0	5	9	6	31	
	N. W.	17	33	26	21	13	14	11	5	4	4	10	14	30	18	64	
	W.	5	7	7	11	9	16	11	8	17	6	5	3	35	28	15	
	S. W.	6	7	14	11	15	19	27	16	17	17	23	15	62	57	28	
	S.	4	1	4	6	9	13	21	20	4	16	11	1	54	31	6	
	S. E.	4	5	4	6	3	3	2	16	14	20	23	11	21	57	20	
	E.	7	8	8	13	11	10	2	10	9	10	5	7	22	24	22	
	N. E.	16	5	7	4	3	6	2	9	9	11	5	25	17	25	46	
	Calm..	18	14	15	14	9	11	9	6	10	9	11	9	26	30	41	
	Blank.	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	
Shreveport, La......	N.	16	11	13	7	8	5	2	4	5	3	10	6	11	18	33	
	N. W.	6	16	12	15	10	10	12	6	3	3	3	2	28	9	24	
	W.	2	7	4	6	7	4	15	9	3	4	2	0	28	9	9	
	S. W.	0	3	3	9	3	13	11	9	7	15	12	7	33	34	10	
	S.	3	8	7	13	7	17	21	19	16	18	5	12	57	39	23	
	S. E.	15	15	12	11	13	20	12	17	23	17	8	15	49	48	45	
	E.	9	4	9	7	14	12	7	17	11	11	17	10	36	39	23	
	N. E.	8	9	17	8	12	5	4	8	5	10	16	29	17	31	46	
	Calm..	34	17	16	17	10	7	6	4	17	12	20	9	17	49	60	
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Saint Louis, Mo	N.	9	1	7	2	5	10	8	11	7	8	11	17	29	26	27	
	N. W.	11	12	18	13	15	27	16	5	4	14	5	17	48	23	40	
	W.	6	18	15	14	13	10	12	10	5	4	4	3	32	13	27	
	S. W.	14	16	11	16	7	5	12	9	15	13	10	5	26	38	33	
	S.	17	5	8	7	3	16	12	14	17	22	11	18	42	50	40	
	S. E.	11	29	14	19	17	15	15	7	17	16	22	15	37	55	55	
	E.	4	1	4	2	7	4	7	19	12	7	12	3	30	31	8	
	N. E.	8	7	11	13	9	6	4	12	5	9	17	9	22	31	24	
	Calm..	13	1	5	7	8	0	3	6	8	0	1	3	9	9	17	
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Statement showing how many times the wind was observed blowing, &c.—Continued.

Station.	Wind.	October, '72.	November.	December.	January, '73.	February.	March.	April.	May.	June.	July.	August.	September.	Spring.	Summer.	Autumn.	Winter.
t. Paul, Minn	N.	8	4	3	12	3	9	21	26	8	10	14	16	56	32	28	18
	N. W.	10	19	15	19	7	25	20	8	10	14	9	17	53	33	46	41
	W.	13	18	14	15	14	10	12	7	10	10	6	4	29	26	35	43
	S. W.	7	11	11	4	17	10	1	7	7	4	5	5	18	16	23	32
	S.	8	4	2	2	2	7	2	7	18	12	13	18	16	43	30	6
	S. E.	23	15	4	11	15	19	6	8	17	25	18	15	33	60	53	30
	E.	8	5	6	9	11	7	6	12	15	8	13	3	25	36	16	26
	N. E.	3	4	1	4	1	2	6	12	3	2	10	9	20	15	16	6
	Calm..	13	10	21	17	14	4	16	6	2	8	5	3	26	15	26	52
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
oledo, Ohio.........	N.	9	1	1	5	2	2	5	2	3	5	11	5	9	19	15	8
	N. W.	13	3	6	6	13	8	6	3	6	3	6	9	19	15	25	25
	W.	13	28	26	17	19	28	13	4	8	16	8	15	45	32	56	62
	S. W.	12	30	19	20	24	19	14	17	22	19	12	17	50	53	59	63
	S.	18	9	6	17	10	15	5	15	8	15	9	19	35	32	46	33
	S. E.	4	4	3	4	3	7	4	12	13	8	14	12	23	35	20	10
	E.	9	4	5	7	8	3	18	17	18	14	13	6	38	45	19	20
	N. E.	8	3	7	7	11	5	16	19	9	8	17	4	40	34	15	25
	Calm..	7	8	20	10	4	6	9	4	3	5	3	3	19	11	18	34
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
oronto, Canada. ..	N.	18	2	9	10	7	5	13	20	10	10	14	11	38	34	31	26
	N. W.	14	10	15	11	10	23	15	8	10	12	2	14	46	24	38	36
	W.	5	32	30	25	32	26	7	8	4	9	3	16	41	16	53	87
	S. W.	4	14	14	15	7	11	10	7	6	13	4	9	28	23	27	36
	S.	3	1	2	3	0	5	5	9	4	12	14	10	19	30	14	5
	S. E.	4	5	1	2	3	0	2	4	8	6	9	8	6	23	17	6
	E.	9	3	1	14	13	12	22	22	25	7	15	8	56	47	20	28
	N. E.	6	3	7	6	8	10	4	7	7	4	12	4	21	23	13	21
	Calm..	30	20	14	7	4	1	12	8	16	20	20	10	21	56	60	25
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
icksburgh, Miss ..	N.	13	22	22	23	11	5	5	6	0	7	4	22	16	11	57	56
	N. W.	5	11	7	10	7	12	10	9	4	6	6	6	31	16	22	21
	W.	2	3	3	9	3	3	10	7	5	10	4	1	20	19	6	15
	S. W.	3	6	6	5	9	16	7	12	9	9	2	9	35	20	18	20
	S.	3	5	5	12	12	16	28	19	8	7	9	4	63	24	12	29
	S. E.	16	12	17	16	10	18	18	12	15	8	9	10	48	32	38	43
	E.	7	9	10	7	11	13	4	7	6	4	4	9	24	14	25	28
	N. E.	11	5	10	6	11	5	1	7	0	0	5	8	13	5	24	27
	Calm..	33	17	13	5	10	5	7	14	43	42	50	21	26	135	71	28
	Blank.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
irginia City, Mont*	N.	0	0	2	5	....	....	....	....	....	....	....	....	....	....	....	....
	N.W.	7	4	6	8	....	....	....	....	....	....	....	....	....	....	....	....
	W.	14	19	10	21	....	....	....	....	....	....	....	....	....	....	....	....
	S. W.	11	17	15	14	....	....	....	....	....	....	....	....	....	....	....	....
	S.	5	6	13	7	....	....	....	....	....	....	....	....	....	....	....	....
	S. E.	5	1	14	6	....	....	....	....	....	....	....	....	....	....	....	....
	E.	13	21	10	14	....	....	....	....	....	....	....	....	....	....	....	....
	N. E.	0	0	1	0	....	....	....	....	....	....	....	....	....	....	....	....
	Calm..	38	22	22	18	....	....	....	....	....	....	....	....	....	....	....	....
	Blank..	0	0	0	0	....	....	....	....	....	....	....	....	....	....	....	....
ashington, D. C...	N.	15	3	13	11	12	9	8	8	6	7	9	8	25	22	26	36
	N. W.	16	20	24	17	23	31	30	15	12	17	17	21	76	46	57	64
	W.	16	23	13	8	5	13	4	5	2	11	3	0	22	16	30	26
	S. W.	4	6	5	9	3	6	6	8	18	16	11	8	20	45	18	17
	S.	16	16	15	9	13	18	12	18	15	22	10	24	48	47	56	37
	S. E.	10	6	3	3	4	3	2	6	13	6	6	7	11	25	23	10
	E.	2	6	3	4	3	1	9	8	1	1	6	4	18	8	12	10
	N. E.	8	3	3	21	7	8	14	19	15	2	16	10	41	33	21	31
	Calm..	6	7	14	11	14	4	5	6	8	11	15	8	15	34	21	39
	Blank..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ilmington, N. C...	N.	16	13	14	12	10	7	5	7	5	2	1	8	19	8	37	36
	N. W.	16	15	20	18	12	10	10	5	10	3	1	7	25	14	38	50
	W.	5	11	7	8	10	16	12	3	7	7	2	2	31	16	18	25
	S. W.	12	9	15	18	16	25	37	15	12	24	26	11	77	62	32	49
	S.	3	5	2	11	8	6	5	9	9	8	6	1	20	23	9	21
	S. E.	11	5	4	4	6	7	10	15	16	6	5	11	32	27	27	14
	E.	6	8	4	9	8	1	3	13	3	2	4	8	17	9	22	21
	N. E.	14	16	20	9	8	6	2	7	7	6	3	33	15	16	63	37
	Calm..	10	8	7	4	6	15	6	19	21	35	45	9	40	101	27	17
	Blank..	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

*No observations from February 23d to June 15, inclusive, and incomplete to September 30, 1873.

Statement showing how many times the wind was observed blowing, &c.—Continued.

Station.	Wind.	October, '72.	November.	December.	January, '73.	February.	March.	April.	May.	June.	July.	August.	September.	Spring.	Summer.	Autumn.	Winter.
Woods Hole, Mass.*	N.	....	....	....	2	7	3	5	7	6	7	3	5	15	16	....	....
	N. W.	....	....	....	13	14	14	3	2	2	3	7	18	19	12	....	....
	W.	....	....	....	9	19	23	20	11	5	7	5	3	54	17	....	....
	S. W.	....	....	....	14	14	23	19	26	38	38	30	25	68	106	....	....
	S.	....	....	....	8	1	4	8	7	12	12	6	7	19	30	....	....
	S. E.	....	....	....	8	3	3	5	5	5	4	9	17	13	18	....	....
	E.	....	....	....	11	8	7	11	18	11	9	19	6	36	39	....	....
	N. E.	....	....	....	3	5	4	6	3	7	3	6	7	13	16	....	....
	Calm..	....	....	....	15	13	12	13	14	4	10	8	2	39	22	....	....
	Blank.	....	....	....	0	0	0	0	0	0	0	0	0	0	0	....	....
Wytheville, Va.†	N.	....	....	....	....	0	1	1	2	1	6	7	5	4	14	....	....
	N. W.	....	....	....	....	11	20	8	8	3	10	3	9	36	16	....	....
	W.	....	....	....	....	28	32	30	14	14	18	15	15	76	47	....	....
	S. W.	....	....	....	....	12	13	7	2	8	11	8	1	22	27	....	....
	S.	....	....	....	....	2	7	3	3	2	6	2	1	13	10	....	....
	S. E.	....	....	....	....	3	1	3	5	6	0	1	9	9	7	....	....
	E.	....	....	....	....	2	2	6	17	12	2	16	6	25	30	....	....
	N. E.	....	....	....	....	6	2	0	1	0	2	0	2	3	2	....	....
	Calm..	....	....	....	....	20	15	32	41	44	38	41	42	88	123	....	....
	Blank.	....	....	....	....	0	0	0	0	0	0	0	0	0	0	....	....
Yankton, Dak.‡	N.	....	....	....	....	....	....	28	17	11	12	13	4	....	36	....	....
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* Observations began January 1, 1873. † Observations began January 19, 1873.
‡ Observations began April 1, 1873.

PAPER 14.

REPORT OF OBSERVATIONS MADE AT THE ISLAND OF SAINT PAUL, (BEHRING SEA,) BY OBSERVER C. P. FISH, SIGNAL-SERVICE, U. S. A., FROM JUNE 5, 1872, TO MAY 31, 1873.

ISLAND OF SAINT PAUL,
Behring Sea, April 15, 1873.

SIR: This final report that I have the honor to transmit is deemed expedient as a medium, not of exhaustive analysis or even of approximation to perfect results, but rather of conveying a general synopsis of the meteorological features incident to this area.

ANALOGOUS FEATURES OF TWO AREAS.

Naturally resembling that of the North Atlantic Ocean, the climate of Behring Sea presents but few of those more wonderful electric and other phenomena of interior climes; but, as fields for practical research, I can conceive of none more valuable than Iceland of the Atlantic and Saint Paul Island of the North Pacific. Similarly situated in relation to ocean currents, these areas can be readily pictured in the imagination as aerial maelstroms, where, throughout the year, the elements are scarcely ever at rest and storm succeeds storm with violent rapidity and complex change.

PHENOMENA OF UPPER CURRENTS.

The arrangement of observations on the upper currents, which I have attempted, is by no means perfect. The entries in the nephelogical and phenomenal reports are ther in the form of such daily memoranda as apply to the movements of storms and e general phases attending. Voluminous as these reports already appear, a truly rfect entry would involve more rigid system, so constant is the cloudiness and rious the elemental changes, and, thereby, so comprehensive the phenomena daily esented in this climate, that a record of all might discourage the most cursory view. Nevertheless, after a sort of philosophical assumption that all the obscure ws of nature, whether organic or intellectual, are to be developed during future ages, t for, but by, the mind of man, it occurs that, to establish from theories the laws verning the progression and movements of storms, research into the most minute d interior phases thereof should be prosecuted with unceasing vigor.

NEPHELOGICAL OBSERVATION.

Observations upon the clouds alone as indicative of currents and certain barometric other conditions can be so extended that, concerning my own memoranda, I would xcuse their tedious and perhaps monotonous length through evidence of their value as mply records for reference in the investigation of any one particular disturbance.

INTERIOR PHENOMENA.

Another object, independent of immediate practical value, appears in their continu- nce. Recognizing the necessity, in any system of observations, of a correct method the beginning, and awaiting instructions and advice wherein I may have gone stray, I had deemed these minor phenomena, interesting as they are to myself, of con- derable general value, also, as disciplining the attention and leading the perceptions ore readily from effect to cause.

OBSCURITY OF CERTAIN RELATIONS.

Although a more lucid review might be anticipated from a station so distant and isconnected, any discussion of the laws governing these storms, and, particularly, the ectrical condition of these centers, must be necessarily premature, if not impracti- ble.

ATMOSPHERIC PRESSURE.

The area of low pressure prevailing during winter over Behring Sea is certainly ery extended, as evidenced by former observations at Sitka and those records from e mouth of the Anadyr which I have transcribed, and transmit for reference. This markable depression presents curves and variations which, although not very ab- pt, are of extreme interest in connection with the atmospheric changes.

VARIATIONS OF PRESSURE.

The difference between the pressure of any two successive months, as December, 872, and January, 1873, is often extreme and a true index of other corresponding con- itions both thermal and hygrometric.

LOW WINTER PRESSURE.

It will be observed that the low average of the winter months is produced by ex- reme minima attending storms; in other words, the normal pressure is high. I do ot here allude to those considerable periods in which the barometer has maintained a eight above 30.40 or 30.50, but rather to those serene intervals in which the pressure, ntirely uninfluenced by any adjacent depressions, remains, for days together, above 0.00, as in the summer months.

ATMOSPHERIC WAVES.

Otherwise than from the great daily and monthly variations, the barometric move- ents appear to resemble those of temperate climes. The great depressions move for- ard at rates varying according to that of the cirrus cloud, as indicated in nephelogi- al report, and the high intervening ranges are traced according to the lesser oscilla- ions of the mercury that so frequently occur.

INTERIOR STORMS AND EXTENDED AREAS OF DEPRESSION.

During each of two months, December and February, depressions occurred which oubtless extended over the entire area of ocean north of the fiftieth parallel. These ppeared for many days stationary, and reference to the journal indicates a series of inor depressions, to which, considering their characteristics and attending phenom- na, I have applied the name and importance of subordinate "eddies," as will be noted nder the head of storms.

THERMAL CONDITIONS.

The range of temperature over the area of which Saint Paul Island is represent- tive, is most intimately related, as might be anticipated, to the extreme high degree of humidity which prevails even through the winter months. In this element of heat we notice, particularly, the influence of ocean-currents, which appears similar to that causing the isothermal deviations of the North Atlantic.

MEAN WINTER TEMPERATURE.

The past winter is said to have been "seasonable," but a series of former thermometric records has fallen under notice which indicates that during this period a higher temperature sometimes prevails, and thus, perhaps, a lower pressure. I am confident that a series of years would throw the isothermal of 20° considerably south of this island.

RANGE OF TEMPERATURE.

The range of temperature, both daily and monthly, is subject to greater variations than in the summer season. During a period of two or three months the sea northward is completely ice-bound, whence it might be inferred that the depressions occurring on the westerly curves of storms are quite as abrupt and extreme as in the continental interior. Results do not justify this conclusion, as the thermometer rarely attains a minimum of — 10°, and it is quite evident that, during the period referred to, the island still lies within the influence of the warm currents southward, the ice-boundaries extending but a short distance in that direction.

ABRUPT VARIATIONS.

The more rapid variation occurs on the easterly quadrants of those storms from southwest, in which the indrawn southeast current causes the temperature to rise quickly to near or even above 32°.

GENERAL UNIFORMITY OF TEMPERATURE.

With exception of the less abrupt depression on the westerly quadrants produced by the northerly surface currents, the temperature remains otherwise remarkably equable, and, during even the days most free from cloud, the thermometer, if, at daylight, near or below zero, continues near that degree until the sun attains the meridian, even although it is near the vernal equinox, and the wind comparatively light.

AN ISOTHERMAL OF ALASKA.

The winter isothermal of Sitka evidently intersects this meridian about one hundred miles south of the Aleutian Isles.

THERMAL MAXIMA AND MINIMA.

The winter maximum of temperature is said to very rarely attain 40°. The minimum has never been known to extend below —14°.

HIGH TEMPERATURE OF NOVEMBER AND DECEMBER.

November and December are generally noted for high temperature, and the absence of ice during those months is naturally suggested as among the known causes in advancing, as in the interior, the winter minimum to a period one or two months beyond the solstice.

PERIOD OF GREATEST THERMAL DEPRESSION.

Casual observers have attempted to indicate the month or time of greatest cold. Without disputing statements conflicting in themselves, it is evident that this can be established only by extended observations. During the past winter March, with a mean temperature of 12°, was the coldest month; but an examination of other prevailing conditions points to this instance as possibly exceptional.

TEMPERATURE OF SURFACE CURRENTS.

I have entered in phenomenal record crude observations on the general course of temperature corresponding with surface wind. These I would henceforth discontinue as an unnecessary addition to Form 4.

TEMPERATURE OF SOUTHWEST CURRENT.

The only currents worthy of note by reason of temperature are those from southwest and east-northeast. The southwest current moves from the direction of the warm Kuro Siro; nevertheless, the southeast wind of the other southerly quadrant which frequently attends rain, no more quickly veers to southwest than does the temperature materially decrease and the rain turn to snow. The southwest wind, even when independent of its rotary relations to a storm's center, and, when once or twice observed to be permanent from that direction, is also of several degrees lower temperature than the average of the southeast current.

TEMPERATURE OF EAST-NORTHEAST CURRENT.

The temperature of the east-northeast wind exhibits a rather higher temperature, I think, than that of the current from due east; but this is a subject for further observation.

RELATIVE HUMIDITY.

The hygrometric conditions prevailing during the winter are but little at variance with those of the summer. So frequently, indeed, have degrees of saturation to be recorded, than when the difference is less than one degree, I have entered the humidity as deduced from a fractional part thereof.

HUMIDITY OF VARIOUS SURFACE-CURRENTS.

The north wind is laden with the least moisture, which is still relatively great. The following is the order in which the winds vary with reference to an *increase* of moisture: North, northeast, northwest, west, southwest, south, east, and southeast. This does not embrace, however, the east-northeast wind, which almost invariably advances a degree of saturation.

PHENOMENAL INCREASE OF HUMIDITY.

For several weeks in the fall months I noticed, during irregular precipitation, an invariable increase in humidity and the violence of the showers whenever the wind veered at all westward from due north. A column therefor was accordingly entered in one of the reports, but, after the succession of the winter months the phenomena was no longer repeated. This column I have continued, however, that it may be noted, in the ensuing season, whether such relations were purely co-incidental, or owing to sea-currents subsequently closed by ice.

ARIDITY OF NORTHEAST CURRENT—ITS RESEMBLANCE TO THAT OF WESTERN EUROPE.

The aridity of the northeast wind remains to be noticed for its remarkable correspondence to the northwest wind of the States, and its close analogy to the northeast current of western Europe. Whenever the center of a storm moves south of the island, that current is thrown into action, and its cold aridity speedily condenses the upper clouds, changes the storm "scud" stratus to characteristic cumuli, and in every manner denotes the presence of the westerly quadrants.

ORDINARY CHARACTERISTICS OF SURFACE-CURRENTS.

Concerning the winter surface-currents in general, in nautical idiom, "it is always blowing a gale." During the season of the year under consideration, the intervals between the storms are so brief, and the north winds of retreating storms so persistent, that the expression conveys almost literal truth. I have deemed it expedient to refer, in the following general manner, to the characteristics of each of these surface-currents, in order to aid in a comprehension of the ordinary winter weather of the island.

NORTH WIND.

The north wind naturally prevails on the westerly quadrants of storms, but settles more frequently in that quarter when the center passes south of the island. When the center passes north or northwest, and the wind veers by way of southeast and south, conditions, thus far, have appeared so complex and other storms so quickly succeed that the current seldom veers around as far as north, or even northwest. The north wind is characteristic in its low temperature and the irregular showers of receding storms from west-northwest. In this climate it is almost invariably attended by a cumulus which extends around the horizon, or, more usually, appears as a full, gray, monotonous stratum. This wind frequently varies or oscillates between north-northwest and north-northeast, without appearance of upper cloud or other disturbing conditions. Its velocity is usually about twenty-five miles per hour, but frequently, for days together, it moves at the rate of thirty to forty-five miles.

NORTHEAST WIND.

The northeast wind resembles that from north, but, after its speedy condensation of upper clouds, it is seldom attended by profuse showers. When persistent it is not vigorous.

EAST WIND.

The *due* east wind seldom prevails. The currents of aspiration caused by approaching storms usually spring from east-northeast, or some point to the south of east-southeast.

EAST-NORTHEAST WIND.

The east-northeast wind attends nearly all storms from the west-northwest, and demands attention in their connection. Its average velocity is about thirty-eight miles an hour, but on "occasions of state," as during the storm of February 8, it asserts terrific strength and confirms its power by hurricane violence. As in January, it sometimes continues for many days, forming, with its characteristic phenomena, the extreme outer fringe of quadrants of storms prevailing in succession on far-distant southerly parallels.

SOUTHEAST WIND.

The southeast wind, indrawn towards approaching storms, is frequent during the months of November and December, and during some winters evidently throughout the season. This current, so prevalent at Sitka, is also frequently recorded in the Anadys Transcript, sometimes transferring the mercury quickly from — 30° to + 30°. It seldom moves at a less velocity than twenty-five miles per hour, more generally at thirty-five; and frequently, for a few hours, from fifty to seventy miles. Its average duration is not so great as that of the east-northeast wind, and in the majority of storms it speedily veers to southwest.

SOUTH WIND.

The south wind resembles the southeast, but is comparatively infrequent, and either prevails from that direction temporarily, during a gradual veering, or, if settled, unusually has several degrees of so-called "westing," partaking of the nature of the southwest wind. Its velocity is moderate.

SOUTHWEST WIND.

The southwest wind is the great surface-current pushing toward the storm-centers that pass north of the island. It is usually the extreme limit to which the wind veers when other storms are about to succeed, and, with regard to its phenomena, is worthy of strict attention. Its vigor is from thirty to thirty-five miles, although at times as great as sixty-five or seventy miles per hour.

WEST AND NORTHWEST WINDS.

The west and northwest currents have been, thus far, the least frequent and vigorous of all. General phenomena indicate these characteristics as normal, but on this point the evidence of those residing on the island is conflicting. The prevalence of high westerly winds would necessitate atmospheric conditions, which are not yet, to myself, readily imaginable.

PRECIPITATION.

Observations on the character and amount of precipitation in this area are attended by interesting results. It will be at once noted how entirely disproportionate is the amount compared to the relative frequency and ominous character of cloudiness. The most profuse seldom affords a measure exceeding forty hundredths, (.40,) and yet it frequently occurs that every day of an entire month is attended by light precipitation of some form, and even if the entry of "rainy days" be restricted to those in which at least .01 falls, the number is surprising. A large amount of this precipitation is furnished by the front quadrants of general storms, although long continued showers of westerly quadrants add a remarkable share, especially during the months of January, February, and March; the hail and snow of cumulo-stratus attending the storm-center is by no means inconsiderable.

PRECIPITATION, IRREGULAR AND CONTINUOUS.

In phenomenal reports I have classified the precipitation as *irregular* or *continuous*, and thus far a large portion of the latter has fallen during the night.

FORM OF RECORD.

By reason of the light quantities, resulting from showers and consequent error from evaporation, I have entered the former thrice daily.

FORM OF PRECIPITATION.

By far the greater amount, during the winter months, is in the form of snow, drifting immediately into the sea. In continuous snow, however, the southeast wind seldom fails to so increase the temperature that rain can and does fall at any time, during the season.

SIZE OF DROPS, FLAKES, AND HAIL-STONES.

The rain-drops are of comparatively small size, and never descend in torrents as on the mainland coast or interior.

The size of snow-flakes varies as elsewhere; the fine frost-snow of the arctic regions is occasionally recorded during extreme thermal depressions, but is seldom of sufficient amount to reflect even imperfect parhelia, although sometimes descending from a cloudless sky. The hail is of the white opaque variety, termed sleet, and varies in size according to the strength of conditions hereafter referred to; the study of its texture is not to be disregarded.

SNOW-MEASUREMENTS DURING TEMPESTS.

In the journal of February 8 I have referred to the difficulty of snow-measurement in stormy climes, the frequent inutility of the rain-gauge, however admirably constructed, and the extreme care and judgment requisite for accuracy. Partial *estimate* becomes absolutely necessary during certain storms, but, in order to secure more proximate results than is usual under such conditions, I adhere to a series of *considerations* entered on the date referred to.

STORMS OF BEHRING SEA.

The subject of storms presents a field of amazing latitude, and the numerous results of records, even with the exclusion of discussion and *cherished theories*, can scarcely be all embraced in a review of this character.

Somewhere in course of reading I have noticed the assertion that the signal-service comprised, among other observers, a large proportion of *unsuccessful* merchants. Discarding, simply by allusion thereto, the unintentional animadversions, I cannot conceive how those unfortunate, *through inability*, in the maze of commercial venture, could ever anticipate success in analysis of the almost interminable series of phenomena attending atmospheric storms, and thence weave theories perfect and firm.

FREEDOM OF WINTER FROM FOG AND CONSEQUENT FAVORABLE VIEW OF UPPER PHENOMENA.

So comprehensive are the changes and attendant phenomena so openly presented to view during the winter season, are the numerous and intricate cloud-currents over Behring Sea, that a failure to obtain the secret of the causes operating to produce a storm-progressive movement alone is indicative of the innate strength of meteorological science, and declares that the attack of the very front necessitates not only the acumen of commercial talent, but all the practical tact that applies to law or mutual philosophy.

TWO CLASSES OF GENERAL STORMS.

The ordinary records point very conclusively, however, to certain general results. Of the storms prevailing during winter there are two sorts, both cyclonic; one whose general course is from west-northwest, and the other from any point between west-southwest and south.

WEST-NORTHWEST CLASS OF STORMS.

The storms from west-northwest naturally appear to proceed from near the Asiatic coast. They occur at any season of the year, but more frequently in the later months of winter, displacing, as it were, the succession of those from southwest. Their origin may be, at least, as far westward as the coast-line, inasmuch as they are of fully developed and sometimes excessive vigor on arrival at the island.

DIRECTION OF ROTARY CURRENTS—DURATION.

Although their course is occasionally from many degrees north of west-northwest, the indrawn rotary current is generally from east-northeast. When the center passes north the wind may rise from east-southeast; seldom or never from due east. The duration of this storm is from one to three days.

PREMONITORY INDICATIONS.

The manner of initiation is peculiar to its class. Two or more days of comparative inaction elapse, during which there is seldom visible, at night, any appearance of auroral glow; but, on the night preceding the storm, that phenomenon is frequently observed as recorded in journal. During the night or following day, humidity increases, the barometer falls, and, after the commencement of the rotary current, the temperature increases, though not to so great a degree as in the southwest class of storms.

CIRRUS ADVANCE.—CIRRUS OF ANOMALOUS ALTITUDE.

The cirrus advance is, through practice, easily recognized among any other clouds and frequently appears many hours previous to the barometric fall. It is sometimes accompanied by cirrus compounds and overspreads the heavens very gradually. When cirro-stratus or cirro-cumulus alone appear moving, as they never do in the commencement of southwest storms, along the path ofdisturbance, those clouds, during and after extension, are sometimes obscured by a peculiar form of cirrus which must be of singularly low altitude.

PRECIPITATION ATTENDING THE EAST-NORTHEAST CURRENT.

The wind increases in this storm gradually and regularly, veering slowly at the center to north by northeast, or by south. The precipitation is remarkable for the small size and piercing character of flakes which, when fallen, have to the touch a consistence of finely ground meal or flour. It is surprising that when the wind happens to veer toward the southeast, these flakes enlarge and assume a texture as normal as when it veers the other way.

MARKED PHENOMENA OF THE EAST-NORTHEAST CURRENT.

There is another similar phenomenon incident to this storm, or rather to the east-northeast current, quite worthy of note. At a temperature as low as 22° the snow frequently turns to rain; now, we will suppose the temperature to remain uniform; if the wind veers by way of northeast the rain turns to snow, which is not remarkable, but it is certainly singular that the rain also changes to snow if the wind veers to southeast, or even approaches within 5° of east. I have even noticed, under the latter conditions, the change to snow when the temperature *increased* to 32°.

CURRENTS, AERIAL AND OCEANIC.

These phenomena seem to indicate that, eastward of this island, the warm currents of the sea are thrown over into Bristol Bay, producing there an area of increased warmth and humidity. This suspicion is supported by other phenomena that attend this wonderful storm-current. It is uncertain, thus far, whether the oceanic currents are deflected by ice toward the area referred to. These east-northeast winds occurred at a very early period during the fall. Summer observations will assist in determination.

CHARACTERISTICS OF THE EAST-NORTHEAST CURRENT.

During the prevalence of this wind fog sometimes appears from east-northeast, and whenever cumuli moving from east or northeast assume a new direction from between those points, their texture is immediately changed to the scud stratus, if the wind is violent, to the uniform fog stratus if moderate. This stratus has but little elevation, and, on one occasion, (temperature 24° and no upper clouds,) I noticed fine rain when it lay at an altitude of less than 600 feet, and when its temperature must have been 8° above that at the surface of the earth.

"FROZEN FOG."

Moreover, with this wind, a frozen precipitation sometimes appears, which the people of the island call "frozen fog."

LIMITS OF THE SINGULAR EAST-NORTHEAST CURRENT.

Such are the phenomena incident, not strictly speaking, to the west-northwest storm, but to its surface-current, and they are worthy of continued attention. They only accompany that current when the latter is from between east 8° north and northeast 10° east. The residents and natives call the storm itself a northeaster. The northeast wind is of a widely different character from the east-northeast.

MOVEMENTS OF CIRRUS IN WEST-NORTHWEST STORMS.

Although, during the passage and disappearance of this storm, cirro-stratus and cirro-cumulus conform to the new surface-currents, the cirrus-cloud itself usually retains its original direction, presenting but few of the changes and dispositions which it exhibits in storms from southwest.

FINAL CHARACTERISTICS OF THE STORM.

Storms from west-northwest do not closely succeed each other, and their westerly quadrants constitute the most lengthy periods of severity. Finally, differing widely from those of the southwest class, their precipitation is frequently light on account of the fineness of the rain or snow.

STORMS OF THE SOUTHWEST CLASS—EVIDENT ORIGIN FROM CYCLONES OF CHINA SEAS.

Presented now for consideration, the southwest class of storms includes all those violent commotions whose origin is in the vast extent of ocean lying in a direction from west-southwest to south. These are, above all others, the storms which impart to this sea its tempestuous clime, and whose midnight fury often hurls, with almost volcanic strength, the mountainous waves of ocean against the island's rocks and cliffs. Rising from the direction of the warm Kuro Siro, or Pacific Gulf Stream, they move along its course, assuming their greatest frequency in November, and a review of their general phenomena cannot but suggest their real origin to be from those violent cyclones that curve around the China Seas.

PREMONITORY INDICATIONS.

Under a great variety of conditions do these storms appear before the island. At times, a dry, cold-appearing cumulus-stratum from north is suddenly dispersed through extension of the cirrus from southwest, constituting the storm-advance. Sometimes, though not frequently, a storm from west-northwest appears to converge on one from southwest, in which the latter asserts its superior strength, and mingles with the former or breaks it up. More frequently, however, the first indication of its approach is a cirrus-trace along the horizon. This advance is seldom accompanied by cirrus compounds *from its own direction*, as in the storm from west-northwest, but the true current of cirrus itself extends with marked rapidity and ominous aspect.

PHENOMENA OF SOUTHWEST-STORMS.

The barometric fall is proportioned to this rapidity of approach, and the attending gale from southeast attains its maximum velocity, frequently, but a few hours after the initiatory indications. Storms of this class are of comparatively brief duration.

DECEPTIVE SOUTHEAST CIRRUS-CURRENTS.

It will be noticed, in the earliest dates of the journal, that I was led into the error of supposing many of these storms to progress from the southeast. This resulted from observing, during the progress of the storm, its cirrus-stratum, or traces thereof, moving from a southeast direction, when, in reality, this new movement of the cloud was caused by its coming within exposure to the surface-current.

ORIGIN OF ANOMALOUS CLOUD-CURRENTS AND FORMATION OF CIRRUS COMPOUNDS—FREQUENT CONFORMATION OF UPPER CLOUD TO SURFACE-CURRENT.

The observations of November 18, in journal, detail at full length the manner of these singular changes and also the origin of cirro-stratus and cirro-cumulus. It is especially worthy of note that after the advance quadrants of both classes of storms have moved beyond the island and the intricate upper currents again appear, the latter frequently evince this remarkable disposition to assume the direction of the surface-wind, and the cirro-cumulus of the west-northwest storms is almost invariably thus affected. In the storms under consideration, when the center approaches, and even after the wind has veered to southwest, the traces of cirrus retain a direction from east or southeast during the period they remain in view, which is usually brief.

CIRRI OF GREAT ALTITUDE.

At this step in the storm's progress, however, on one or two occasions, light traces of cirri have been observed, of great altitude and moving along the true path of disturbance.

STORM-CENTERS OF THE NORTH PACIFIC.

But these phenomena introduce the observer to an area of the storm more calculated to arouse wonder and speculation than any other possible combination of atmospheric conditions that prevail over Behring Sea.

The elements having exhausted their fury of the easterly quadrants, the wind quickly veers to southwest, dispersing the stratus "scud;" the fragmentary traces of retreating cirrus undergo all that remarkable transformation and disposition referred to in November's journal, and then, along the southwestern horizon, glimmers the sharp well-defined boundary of the cirro-stratus whence, beyond, lies a circular area which is the wondrous sun-lit storm-centre of the North Pacific, the investigation of whose phenomena is worthy of years and wherein are concentrated all the mighty forces of atmospheric action.

PHENOMENA OF THE STORM-CENTER—SPLENDOR OF THE ELECTRIFIED CUMULO-STRATUS ATTENDING THE STORM-CENTER.

The barometer is now at its minimum, and that singular element called *haze* assumes a peculiar appearance and increases from one or two, to seven, eight, or even ten in the *scale of density*, extending, however, but little distance above the earth. The sun having appeared, the island glows with a tinge resembling that of Indian summer, and naught remains, for a few moments, but the mercury of the barometer to indicate, to the casual observer, the focus of a widely-extended cyclonic storm. And now, wide-spread throughout the heavens and jutting above the horizon in all that majesty that nature alone can lend, frown the dense and apparently electified forms of the cumulo-stratus. Nowhere, from the Atlantic to the Rio Grande, or from Lake Superior on the north to the Bay of Mobile on the south, where in summer these imposing forms of vapor mass so grandly around the horizon, assuming a characteristic density, have I witnessed aught to compare, either in beauty or density, with those stupendous summits of the cumulo-stratus which fill the centers of these November and December storms.

CENTER WELL-DEFINED.

Confined within the limits of furious storm around, no imagination can render justice to their grandeur. Piled summit over summit they threaten every hour, winter though it is, terrific thunder-showers or visible electric bolts to appal the sense. But no *violent* storm issues from the vaporous battlements and lurid depths, no visible electric flash ever darts from out these apparent "thunder-clouds" that seem to have wandered from some tropical clime. The commanding forms move silently along the path of progression, monuments, as it were, of the mighty force that imparted to them their rocky density.

HAIL OF THE CENTRAL CUMULO-STRATUS.

At intervals, these cumulo-stratus precipitate a piercing hail, the intensity and size of which vary rather according to the strength of the general storm and the apparent symmetry of the storm-center, than the density of the immediate cloud.

"CLUSTER" RESOLUTION OF THE CUMULO-STRATUS.

It is well known that, in the interior, the electrified cumulus or cumulo-stratus is attended by a peculiar resolution, sometimes uniform in appearance and resembling nimbus or dense cirrus. A similar cloud transformation occurs in or near these storm-centers, to which I have applied, for distinction, the name of "cluster" resolution, as the formation not unfrequently resembles a cluster of fruit.

ASCENDING CURRENTS OF THE STORM-CENTER.

This peculiar form, ascending and resulting from cumulo-stratus, frequently ascends farther and becomes a cirrus, exhibiting phenomena as described, for instance, in journal of December 16, 1872.

CIRRUS AND ITS DISPOSITION—ASCENDING CURRENTS.

Many truths, otherwise established, are confirmed by the cloudiness which immediately encircles the storm-center. As an instance, peculiar movements in and upon the center of cirrus and its compounds, together with their sudden dissipation therein, prove the spiral movement of the indrawn currents. Again, briefly stated, ascending aerial currents of the center are indicated by the rise of cumulo-stratus into "cluster" resolution and, subsequently, into cirrus.

PECULIAR TRANSLATION OF CIRRUS.

Observations have revealed the singular fact that, when the center appears, the upper clouds bounding it on the easterly quadrants have a frequent movement from east, *which is only apparent*, for, in truth, a mysterious translation continues *toward* the east, or rather northeast, so that where a casual observer might anticipate another total obscuration of the heavens from eastward, he discovers, to his surprise, the retrocession of all these deceptive cloud-currents beyond the eastern horizon. All traces of cirri which have this apparent movement into the centre from east are dissipated as in a furnace.

OBSCURITY OF PROGRESSIVE ACTION.

The unsolved question frequently recurs, what invisible force propels forward this vast concentration of elements whose upper cloud-currents indicate in the commencement of the storm the path of disturbance, but, when bounding the center or seen in the western quadrants, furnish no longer any tangible clue to the direction of this progressive movement?

CURRENT OF GREAT ALTITUDE FROM WEST-NORTHWEST.

In the journal of November I have alluded to the possibility of an extreme upper west-northwest current which, as constant and generally unattended by cloud, has some connection with these storms from southwest. I was led into what was perhaps an error by observing in the first of the series, far above the storm, cirrus from southwest traces of that cloud from west-northwest. Unable to determine the relations of a current of at least five miles altitude, I abandoned, for the present, a fruitless consideration.

WESTERLY QUADRANTS OF SOUTHWEST STORMS—SOUTHWEST SURFACE-CURRENT.

Several centers of storms fortunately passed over or near the island, occupying in translation from eight to forty-eight hours. The westerly quadrants arrive with a renewal, in most instances, of symmetrical storms of precipitation and a tendency of the wind to veer more to the west and naturally to the northwest or north. But the succession of these storms is usually so rapid and sometimes so complex that the surface-current generally remains oscillating between west-southwest and south-southwest. Its action has been found highly deserving of notice, especially in connection with other phenomena, as indicating the character of approaching changes.

EXTENDED AREAS OF BAROMETRIC DEPRESSION.

Reference to the widely extended and extreme depressions now becomes necessary in connection with this southwest current of the westerly, or rather southwesterly, quadrants. Two of these, as stated in a former paragraph, have occurred during the winter and have proved so persistent that they can, by a certain composition of science, be designated as *chronic* in contradistinction to those in which the low pressure is of little duration.

INTERRUPTION OF SURFACE-CURRENT BY CERTAIN "EDDIES" OR SUBORDINATE STORMS.

These extended depressions are initiated by a storm of ordinary violence, and the wind veers regularly from southeast to southwest. The barometer falls perhaps to 29.30, but, instead of rising, it continues low and the veering wind "halts" on attaining southwest, veering no farther. Then, on several successive days follows a *series* of storms equally severe, perhaps, with the initiatory one; but, during each of these, the mercury falls a few tenths (say to 28.80) from the *established* low pressure of 29.30, which latter height is regained in the intervals between the storms. The latter bear every characteristic of subordinate "eddies" in a *general* depression. The spaces between these are ordinarily occupied by the dense cumulo-stratus, which, however, is not so well defined as in a single symmetrical storm.

ROTATORY CURRENT OF GENERAL DEPRESSION.

What supports this affirmation of *interior eddies* is that, after each one, the wind having, previous to its appearance, been naturally *drawn back* to the southeast, advances, *after veering*, farther and farther toward due west, so that when the last *interior* storm has disappeared its direction is fully west, if not west-northwest, just as if the great rotatory current of the general depression had been gradually veering during all these days from southwest to west-northwest or north.

STORM-WAVES.

It is the occasional violence of wind attending the westerly quadrants of these storms from southwest that produces the light storm-waves referred to in journal.

INFERIOR BUT EVIDENTLY DISTINCT CLASS OF STORMS.

There is one other inferior sort of storm from southwest that appears to be independent of the general class of southwest disturbances, as occurred during the latter days of February. These sometimes precipitate considerable, but are light and unattended by the phenomena of other storms, or even a change of wind.

NEPHELOGICAL PHENOMENA—FREQUENCY OF CLOUDS—RECORDS OF REFERENCE.

Close attention has been devoted to the subject of clouds. Any possible connection between a study of their texture and the practical concerns of life is, doubtless, to the world at large, a matter of merriment. Whether or not, for assistance in the operation of more practical laws, the very texture of clouds varies and consequent research thereinto is at present requisite, it is beyond a doubt that, owing to their great relative frequency over Behring Sea, they are faithful indicators of the upper aerial currents, and I have therefore ventured to classify, and enter for reference, their phenomenal indications as far as they can be made to bend toward the solution of questions that may yet arise.

CAPTION OF REPORT.

For the caption of this report, which includes only observations on the clouds, I have selected the word "νεφέλη," and, under the impression of having seen the derivative, *nephelogical,* I deemed it admissible.

CONCERNING RECOGNITION OF ATMOSPHERIC CONDITIONS BY MEANS OF CLOUD-TEXTURE.

It has been impracticable, as in the instance of the cirro-cumulus, to enter rigidly in Form 4. Without attempting, at present, ulterior deductions from the brief records thus far at hand, I would note the important truth, doubtless already known, but developed particularly in this area, that similar conditions in the progress of, or intervals between, all storms are characterized by corresponding aspects of cloudiness.

CORRESPONDING NECESSITY OF EXTENDED CLASSIFICATION—CHARACTERISTIC TRA FORMATIONS IN CLOUDS.

This undeniable premise involves a most extended classification, which, witho nomenclature, I have, during the winter, mentally performed. Thus, (excluding ni bus,) the remaining six cloud formations, notwithstanding their *apparently* innumeral and kaleidoscopic variations, present, each one, under appropriate barometric and oth conditions, either present or approaching, such marked and distinctive aspects a texture as to be readily recognizable on future occasions. For instance, cumulus fr southeast differs entirely from that moving from north, and cumulus from north is n of the appearance of that from northwest or west. Cumulus as a complete strat with no upper cloudiness is of an aspect widely different from that of cumulus wh cirrus or cirro-stratus lies above. The other clouds are susceptible of a similar class cation; and, in truth, there are no less than forty different strata which I recognize conforming to or heralding corresponding atmospheric conditions.

LACK OF NOMENCLATURE.

To this subdivision there is an evident limit, and a general nomenclature of various sorts would materially condense the cloud-records of the accompanying journ

PRINCIPAL VARIETIES OF CIRRUS CLOUDS.

The cirrus cloud of Behring Sea is particularly remarkable for three variet referred to: 1. That constituting the storm-advance. 2. A stratum of infrequ texture combined with cumulus as noted on September 25, 1872. 3. A sort that res bles haze, but of much greater density and obscuring cirrus compounds, sometin assuming a smoky or red appearance. This latter variety has been frequently observ with a remarkable striation, the lines extending precisely into magnetic north.

"CURTAIN" CLOUD.

The cirrus cloud, nearly losing its identity before an *interior eddy*, was observed, one occasion, to resemble a cluster of grapes, or rather *curtains* irregularly looped, was naturally followed by rain.

PRACTICAL VALUE OF CIRRUS OBSERVATIONS.

I have also referred, in journal, to the apparent practical value of observations the cirrus cloud. This appears extreme when stations sea-ward do not or cannot ex

MANNER OF GENERAL CLASSIFICATION—CIRRUS CLOUD ALWAYS WELL DEFINED TEXTURE.

Lest the classification of clouds in the accompanying records appear obscure or error, I venture the sacrifice of brevity, and would state that I have considered cirrus cloud as retaining its identity so long as it does not undergo that singular well-known resolution into the aqueous or, so to speak, *melted* texture that characteri other clouds. It appears entitled to its identity from its first appearance as a se transparent stratum up through its various stages of increase, to the time of a cert massive density which, without the intervention of any compound clouds whatever sometimes seen before precipitation. I am aware that in these stages of increase i sometimes called a stratus, cirro-stratus, or whatever name seems more euphoni when none of these latter have appeared. By the way, lack of discrimination betw the two clouds, stratus and cirro-stratus, is, in itself, manifest error.

CIRRO-STRATUS AND STRATIFIED CIRRUS.

Stratiform cirrus I have *not* designated cirro-stratus, as the cloud, by that frequ disposition of its texture, loses neither identity nor title.

STRATUS.

Stratus has been limited to two varieties: "scud" and the slightly-elevated f stratum, as it appears previous to ascent and resolution into cumulus. (Two varie only in *this* climate.)

RELATIONS OF CUMULUS CURRENT.

For mere convenience in the journal I have referred to the cumulus as a lower clo The distance to the nearest upper stratum of cirrus or its compounds is always con erable; moreover, in all movements of upper strata the relations of the cumu thereto somewhat resembles those of the "scud" stratus, both being generally ac on by the surface-wind, invariably when the latter is of any strength.

CIRRUS COMPOUNDS.

It is perhaps unnecessary to assert accuracy in cirro-stratus and cirro-cumul which necessitate the constant exercise of delicate judgment.

FOG.

But little fog prevails during the months from October to April, inclusive. This rm of cloud will be thoroughly examined with regard to its proportion to other cloud- ess during the ensuing summer. A review of the reports proves the *upper* clouds, as ell as the lower, to conform *very* frequently to the direction of the surface-current.

HENOMENAL RECORD.—STORM-CENTERS OF BEHRING SEA AS CIRCULAR RESERVOIRS OF ELECTRIC FORCE.

The phenomenal record embraces observations on certain elements whose relations e still in comparative obscurity. The action of some unknown elements on the very xture of all *clouds*, under whatever phases they may appear, presents itself as a sub- ct for close research and extended observations. Whatever may be the subtle nature f that which we designate electric force, and however this may be overladen with andering, homeless theories, the most casual observer might, if thereto inclined, ecognize the centers of all the southwest Pacific storms as vast *reservoirs of electricity.* hese storm-centers, with their piercing hail, peculiar haze, and the wondrous density nd grandeur of their cumulo-stratus, offer certain and visible proof of electric action a high degree, and form a secure base for attack on the primary causes of progressive ovement. That a more thorough analysis of the attendant phenomena, assisted, if ecessary, by magnetic and other apparatus, would result in more definite conclusions, beyond a doubt.

AURORA POLARIS.

The atmospheric conditions over Behring Sea, in connection with the infrequency of ie phenomenon now referred to, are particularly favorable for tracing auroral rela- ons to storms.. Throughout all this area the cloudiness is so frequently broken that ut few nights pass without rifts in magnetic north. The phenomenon, whenever it ppears, is of very moderate intensity, and only under certain conditions is it visible all, even through the clearest skies.

AURORAL RELATIONS TO ATMOSPHERIC ACTION.

The absence of aurora during the serene intervals of westerly quadrants of storms, ie extension of peculiar *luminous haze* or *electric light* immediately preceding storms, nd the diffused glow of the aurora discerned through rifts, or even dense clouds that ccompany, are all relations constantly indicated by the journal and records. I doubt a single storm has passed the island during the winter without the appearance, al- ough perhaps obscured, of auroral light.

INCIDENTAL DEDUCTIONS.

It is, perhaps, rather foreign to logical or inductive conclusions, but a convincing roof, to my own mind, of a close connection between the aurora and atmospheric orm is, that whenever the display appears through a sky free from upper cloud I rn *mechanically* for the appearance of cirrus traces from beyond the Western Sea; nd this quasi acknowledgment is more significant from the consciousness of having ntinued the winter observations without the slightest pre-determination.

ILLUSTRATIONS OF AURORAL RELATIONS.

With references at hand for the entire winter, I cannot but allude to the long period inaction during the month of March. The heavens were sometimes partially and equently almost clear, but no trace of aurora was visible, except on March 3; and ow significant is the entry, in adjacent columns, that at this time the monotony was terrupted by those disturbers of atmospheric peace—the cirrus and cirro-stratus. fter the termination of the long interval referred to the aurora, later in the month, as also visible in evident connection with storms, as entered in phenomenal record.

EVIDENCE OF JOURNAL AND RECORDS CONCERNING AURORA.

The records of the entire season multiply these evidences; but lest future observa- ons should fail to confirm the significance of the past, I have alluded to the aurora this cursory manner, well aware that if the laws of atmospheric action and auroral henomena are found to be intimately woven, the field of research, lying beyond this ngle but important premise, is still unbroken, although perchance quite as attractive the visible phenomena that point it out.

HAZE—ITS RELATION TO STORM-CENTER.

Concerning the relations of haze, results from the storm-center induce certain imma- re suspicions that would scarcely coincide with any one of many accepted conclu- ons. I have entered observations thereon in phenomenal record, and, affixing a scale of density, find that this element attains a *great* density only in or near a storm's ce tral area. No evident relations between this haze of the center and the aurora hav yet resulted—in fact, the latter phenomenon does not appear in a storm's focus. It no less evident that there *are* relations, and those of an interesting nature.

GENERAL ELECTRIC PHENOMENA—OCEANIC AREA OF NON-DISPLAY.

This climatic area compares with all the continental western coast in freedom fro thunder and lightning, of which there is no instance thus far recorded in reports. Th area of the ocean and Behring Sea, in which these electric phenomena are *extreme* rare, has evidently no boundary on the north, extends as far as Petropauloosk on th west, and far into the Pacific Ocean on the south.

GENERAL PHENOMENA OF RECORDS.

Many other phenomena worthy of notice, however, have occurred during the winte As an instance, a remarkable alternation between hail and snow, succeeded in th evening by aurora in connection therewith, is entered in journal of October 14, 187 No one can turn the pages of such a continuous record without perception of dispr portionate results; but, as *meteorological* investigation particularly demands, they a intended, I would repeat, for reference alone.

GENERAL REFERENCE TO RELATIONS OF OCEANIC AND CONTINENTAL STORMS.

The relations which the great storms prevailing over Behring Sea bear to those a vancing over the continental interior are, by reason of the interposition of mountai chains, comparatively obscure. Those moving from a southwesterly direction precip tate heavily on the mainland coast, but whether their barometric waves penetra the interior of British America, and thereby modify or act on those of the Unit States, is a question that, even were I already versed in the dynamic relations storms, lies beyond the authority of this report to solve. I fear that simple allusio to these relations is premature, if not, forsooth, unwarrantable, assumption. Neve theless, is it not possible that any one of the violent storms of that class from wes northwest may, although yielding its moisture to the mountains, successfully advan its remaining forces over beyond those elevated chains, and then, forming a *nucleus* o the eastern plateaus, and gradually collecting new conditions of cloud and moistur move forward to the Atlantic coast, retaining, as it were, the barometric life and int rior causes of progression that originally forced the storm over the waters of the Nort Pacific?

Labyrinthian as these currents and waves of atmospheric action now appear, th secrets of their relations cannot be quite invulnerable. Analogous currents of the A lantic Ocean and the dependence of European climate thereon open a route of inqui which will doubtless penetrate any obscurity thrown over it by the configuration our mainland coast.

The climate of St. Paul Island closely resembles that of the ocean district, of whic *Iceland* is representative; and the day is evidently approaching when the vigorou growth of Pacific commerce and navigation will so encourage practical meteorolog that a satisfactory reply can be given to the natural inquiry—Is the area north of th Atlantic Isles a key to any class of American storms?

I am, sir, very respectfully, your obedient servant,

CHAS. PATTISON FISH.

The CHIEF SIGNAL-OFFICER, U. S. A.,
Washington, D. C.

Meteorological record for the five days ending June 5, 1872.

STATION: UNALASKA, ALASKA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'd.	Ended.		Maximum.	Minimum.	
Saturday, June 1...	1 23 a. m.	29. 99	56	44	29. 92	43	41	83	0	0	0		Stratus	4-4	0	0	0						
	7 0 a. m.	29. 97	54	43	29. 91	43	42	91	0	0	0		Stratus	4-4	0	0	E.						
	10 23 a. m.	29. 94	51	46	29. 88	46	43	76	E.	7	.24	51	Stratus	3-4	Cirrus	1-4	0						
	2 0 p. m.	29. 91	51	48	29. 85	47	44	77	E.	11	.60		0	0	Cumulus	4-4	E.						
	5 23 p. m.	29. 90	67	44	29. 80	44	42	83	E.	3	.04		0	0	Cumulus	4-4	E.	4.10 p. m.		.01			
	9 0 p. m.	29. 72	53	41	29. 72	41	39	82	E.	4	.08		Stratus	4-4	0	0	0		5.50 p. m.	.01	48	41	
Sunday, June 2.....	1 23 a. m.	29. 76	53	42	29. 70	42	40	82	0	0	0		Fog	4-4									
	7 0 a. m.	29. 73	54	44	29. 67	44	43	91	E.	1	.01		Stratus	4-4									
	10 23 a. m.	29. 76	67	46	29. 66	46	44	84	S. E.	1	.01	72	Fog	4-4									
	2 0 p. m.	29. 70	57	51	29. 63	51	47	72	S. E.	4	.08		0	0	Cumulus	4-4	S. E.						
	5 23 p. m.	29. 63	55	46	29. 56	46	43	76	S. E.	6	.18		0	0	Cumulus	4-4	S. E.						
	9 0 p. m.	29. 64	66	42	29. 55	42	41	91	S. E.	4	.08		Stratus	4-4							52	41	
Monday, June 3....	1 23 a. m.	29. 51	55	43	29. 44	43	41	83	E.	4	.08		Stratus	4-4				6.10 p. m.	7.15 p. m.	.02			
	7 0 a. m.	29. 43	53	43	29. 37	43	41	83	E.	3	.04	149	Stratus	4-4									
	10 23 a. m.	29. 41	52	45	29. 35	45	42	76	E.	7	.24		Stratus	4-4									
	2 0 p. m.	29. 46	62	44	29. 38	44	42	83	E.	5	.12		Stratus	4-4									
	5 23 p. m.	29. 51	71	45	29. 40	44	42	83	N. E.	4	.08		Stratus	2-4	Cirrus	2-4	N. W.						
	9 0 p. m.	29. 54	66	42	29. 46	42	40	82	S. E.	2	.02		Stratus	2-4	Cirrus	2-4	N. W.				46	41	
Tuesday, June 4...	1 23 a. m.	29. 60	56	42	29. 53	42	40	82	0	0	0		Stratus	1-2	Cirrus	1-2	0						
	7 0 a. m.	29. 63	54	45	29. 57	45	42	76	0	0	0	89	Stratus	1-2	Cirrus	1-2	0						
	10 23 a. m.	29. 65	60	47	29. 57	46	44	84	N. E.	3	.04		Stratus	1-2	Cirrus	1-2	0						
	2 0 p. m.	29. 66	57	49	29. 59	49	46	78	S. E.	5	.12		0	0	Cumulus	4-4	S. E.						
	5 23 p. m	29. 65	55	45	29. 58	45	43	84	N. E.	8	.32		Stratus	1-2	Cirrus	1-2	W.						
	9 0 p. m.	29. 71	67	44	29. 61	44	41	75	W.	1	.01		Stratus	1-2	Cirrus	1-2	0				51	42	
Wednesday, June 5.	1 23 a. m.	29. 68	59	43	29. 60	43	41	83	0	0	0		Stratus	1-4	Cirrus	1-4	E.						
	7 0 a. m.	29. 69	55	48	29. 62	47	44	77	E.	1	.01	99	Stratus	1-2	Cirrus	1-2	0						
	10 23 a. m.	29. 73	67	52	29. 63	52	48	72	N. W.	1	.01		Cumulus	1-2	Cirrus	1-2	0	8.30 a. m.	8.40 a. m.	.00			
	2 0 p. m.	29. 68	57	46	29. 61	45	44	92	N. E.	9	.40		Stratus	4-4									
	5 23 p. m.	29. 67	71	45	29. 56	45	44	92	N.	5	.12		Nimbus	4-4				3.35 p. m.		.05			
	9 0 p. m.	29. 68	66	43	29. 59	43	42	91	N. E.	5	.12		Stratus	4-4							54	42	

Meteorological record for the five days ending June 10, 1872—Continued.

STATION: UNALASKA, ALASKA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Thursday, June 6	1 23 a. m.	29. 69	57	43	29. 62	43	42	91	N.	7	.24	....	Stratus	4-4	....	....	....	....	....	.14	....	....	
	7 0 a. m.	29. 69	53	43	29. 63	43	42	91	N.	12	.72	139	Stratus	4-4	....	....	....	....	....	....	....	....	
	10 23 a. m.	29. 74	67	45	29. 64	45	43	84	N.	10	.50	....	Stratus	4-4	....	....	....	....	....	.06	....	....	
	2 0 p. m.	29. 78	66	46	29. 68	46	44	84	N. W.	9	.40	....	Stratus	4-4	....	....	....	....	....	....	....	....	
	5 23 p. m.	29. 83	67	44	29. 73	44	42	83	N.	9	.40	....	0	0	Cumulus	4-4	N.	....	2.20 p. m.	.17	....	....	
	9 0 p. m.	29. 80	65	43	29. 80	43	42	91	N.	11	.60	....	Stratus	4-4	....	....	....	....	....	....	46	42	
Friday, June 7	1 23 a. m.	29. 98	56	42	29. 91	42	40	82	N. W.	11	.60	....	Stratus	4-4	....	....	N. W.	8.30 p. m.	....	.04	....	....	
	7 0 a. m.	30. 06	54	43	30. 00	43	41	83	N. W.	8	.32	254	Stratus	4-4	....	....	....	....	....	....	....	....	
	10 23 a. m.	30. 09	57	46	30. 02	46	44	84	N. W.	11	.60	....	Stratus	3-4	0	0	0	....	....	.05	....	....	
	2 0 p. m.	30. 17	65	44	30. 08	44	42	83	N. W.	13	.84	....	Stratus	4-4	....	....	....	....	....	....	....	....	
	5 23 p. m.	30. 24	71	41	30. 13	41	39	82	N.	11	.60	....	0	0	Cumulus	4-4	N.	11.10 a. m.	....	.00	....	....	
	9 0 p. m.	30. 30	68	39	30. 20	39	37	81	N. W.	9	.40	....	Stratus	4-4	....	....	....	....	....	....	47	39	
Saturday, June 8	1 23 a. m.	30. 36	60	38	30. 28	38	36	81	N. W.	6	.18	....	Stratus	4-4	....	....	....	D'g night.	D'g night.	.00	....	....	Light snow.
	7 0 a. m.	30. 41	53	41	30. 35	41	37	65	N. W.	1	.01	212	0	0	Cumulus	4-4	N. W	....	....	....	....	....	
	10 23 a. m.	30. 46	69	45	30. 35	45	41	68	N. W.	3	.04	....	0	0	Cumulus	3-4	N. W.	....	....	....	....	....	
	2 0 p. m.	30. 49	64	43	30. 40	43	39	66	N. E.	12	.72	....	0	0	Cumulus	1-4	S. W.	....	....	....	....	....	
	5 23 p. m.	30. 50	65	42	30. 40	42	38	66	N. E.	7	.24	....	Stratus	1-2	Cirrus	1-4	S. W.	....	....	....	....	....	
	9 0 p. m.	30. 53	68	40	30. 43	40	37	73	N. E.	5	.12	....	Stratus	4-4	....	....	....	....	....	....	46	37	
Sunday, June 9	1 23 a. m.	30. 51	59	39	30. 43	39	36	72	E.	3	.04	....	Stratus	4-4	....	....	....	....	....	....	....	....	
	7 0 a. m.	30. 50	54	43	30. 43	43	40	75	S.	5	.12	124	0	0	Cumulus	3-4	S.	....	....	....	....	....	
	10 23 a. m.	23. 53	63	50	30. 43	50	46	71	S.	5	.12	....	0	0	Cumulus	4-4	S.	....	....	....	....	....	
	2 0 p. m.	30. 48	58	43	30. 40	53	46	54	S.	5	.12	....	0	0	Cumulus	4-4	S.	....	....	....	....	....	
	5 23 p. m.	30. 48	63	48	30. 39	47	42	62	S.	4	.08	....	Stratus	4-4	....	....	S.	....	....	....	....	....	
	9 0 p. m.	30. 48	63	42	30. 39	42	39	74	S.	3	.04	....	Stratus	1-2	Cirrus	1-2	W.	....	....	....	55	39	
Monday, June 10	1 23 a. m.	30. 44	58	41	30. 36	41	38	73	S.	2	.02	....	Stratus	1-2	Cirrus	1-2	0	....	....	....	....	....	
	7 0 a. m.	30. 40	54	45	30. 33	45	42	76	S. W.	2	.02	92	Stratus	1-2	Cirrus	1-2	W.	....	....	....	....	....	
	10 23 a. m.	30. 39	68	51	30. 29	51	46	65	W.	11	.60	...	Stratus	1-2	Cumulus	1-2	W.	....	....	....	....	....	
	2 0 p. m.	30. 37	66	47	30. 27	46	43	76	N. E.	7	.24	....	Stratus	1-2	Cumulus	1-2	0	....	....	....	....	....	
	5 23 p. m.	30. 32	56	45	30. 25	45	42	76	N. E.	3	.04	....	Stratus	1-4	Cumulus	1-2	N. E.	12.10 p. m.	12.20 p. m.	.00	....	....	
	9 0 p. m.	30. 32	64	42	30. 23	42	40	82	N.	1	.01	....	0	0	Cumulus	4-4	N.	....	....	....	52	41	

Meteorological record for the five days ending June 15, 1872.

STATION: UNALASKA, ALASKA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.		Maximum.	Minimum.	
Tuesday, June 11	1 23 a. m.	30.30	56	41	30.23	41	38	73	N. W.	2	.02	....	0	0	Cumulus	4-4	W.	....	....	....	....	....	
	7 0 a. m.	30.28	55	43	30.21	43	40	75	S. W.	4	.08	82	0	0	Cumulus	4-4	S. W.	....	....	....	....	....	
	10 23 a. m.	30.34	72	51	30.23	51	46	65	W.	7	.24	....	0	0	Cumulus	3-4	W.	....	....	....	....	....	
	2 0 p. m.	30.30	64	51	30.21	50	43	51	W.	8	.32	....	0	0	Cumulus	1-4	W.	....	....	....	....	....	
	5 23 p. m.	30.32	67	47	30.22	47	41	55	W.	8	.32	....	0	0	Cumulus	1-2	W.	....	....	....	....	....	
	9 0 p. m.	30.32	58	41	30.24	41	37	65	S. W.	5	.12	....	0	0	Cumulus	1-4	S. W.	....	....	....	52	41	
Wednesday, June 12	1 23 a. m.	30.31	57	42	30.24	42	39	74	S.	4	.08	....	Stratus	4-4	....	....	....	....	....	....	....	....	
	7 0 a. m.	30.27	54	45	30.20	45	41	68	S.	8	.32	128	Stratus	1-2	Cirrus	1-4	W.	....	....	....	....	....	
	10 23 a. m.	30.26	65	52	30.16	52	48	72	S.	14	.98	....	Stratus	1-2	Cirrus	1-4	W.	....	....	....	....	....	
	2 0 p. m.	30.19	64	48	30.10	48	45	77	S. E.	15	1.12	....	Stratus	1-2	Cirrus	1-2	S. W.	....	....	....	....	....	
	5 23 p. m.	30.11	67	44	30.01	44	42	83	S. E.	8	.32	....	Stratus	4-4	....	....	S. E.	1.38 p. m.	....	.07	....	....	
	9 0 p. m.	30.00	67	44	29.90	44	42	83	S. E.	13	.84	....	Nimbus	4-4	....	....	....	....	....	....	53	40	
Thursday, June 13	1 23 a. m.	29.77	59	43	29.69	43	41	83	S.	8	.32	....	Stratus	4-4	....	....	S.	....	....	.32	....	....	
	7 0 a. m.	29.50	55	48	29.43	48	46	85	S.	9	.40	270	Stratus	1-2	Cirrus	1-2	S.	....	....	....	....	....	
	10 23 a. m.	29.48	68	55	29.38	55	51	74	S.	21	2.20	....	Stratus	1-4	Cirrus	1-4	S.	....	8.23 a. m.	.11	....	....	
	2 0 p. m.	29.49	61	57	29.41	57	51	63	S. W.	8	.32	....	0	0	Cumulus	1-2	S. W.	....	....	....	....	....	
	5 23 p. m.	29.60	57	48	29.53	48	44	70	W.	14	.98	....	0	0	Cumulus	4-4	W.	....	....	....	....	....	
	9 0 p. m.	29.73	56	44	29.66	44	41	75	W.	12	.72	....	Stratus	1-2	Cumulus	1-2	W.	....	....	....	57	43	
Friday, June 14	1 23 a. m.	29.89	55	43	29.82	43	40	75	W.	9	.40	....	0	0	Cumulus	3-4	W.	....	....	....	....	....	
	7 0 a. m.	29.97	69	46	29.87	46	44	84	W.	14	.98	296	Stratus	1-2	Cumulus	1-2	W.	....	....	....	....	....	
	10 23 a. m.	29.95	68	44	29.85	44	40	67	W.	19	1.80	....	Nimbus	4-4	....	....	....	6.16 a. m.	....	.04	....	....	
	2 0 p. m.	30.03	57	46	29.96	46	42	69	W.	15	1.12	....	Stratus	1-2	Cumulus	1-2	W.	....	....	....	....	....	
	5 23 p. m.	30.08	66	44	29.98	44	42	83	W.	16	1.28	....	Stratus	1-2	Cumulus	1-2	W.	....	....	.02	....	....	
	9 0 p. m.	30.16	68	42	30.06	42	40	82	W.	12	.72	....	Stratus	1-4	Cumulus	3-4	W.	....	....	....	48	42	
Saturday, June 15	1 23 a. m.	30.17	53	43	30.11	42	40	82	W.	7	24	....	0	0	Cumulus	4-4	W.	....	5.40 p. m.	.01	....	....	
	7 0 a. m.	30.17	53	46	30.11	46	44	84	W.	3	.04	284	0	0	Cumulus	4 4	W.	....	....	....	....	....	
	10 23 a. m.	30.13	51	48	30.07	48	44	70	N. E.	5	.12	....	0	0	Cumulus	3-4	S.	....	....	....	....	....	
	2 0 p. m.	30.07	54	56	30.01	55	48	56	S. E.	6	.18	....	0	0	0	0	0	....	....	....	....	....	
	5 23 p. m.	30.01	51	46	29.95	46	44	84	N. E.	2	.02	....	0	0	Cumulus	1-4	0	....	....	....	....	....	
	9 0 p. m.	30.02	69	44	29.92	44	41	75	S.	3	.04	....	0	0	Cumulus	4-4	S.	....	....	....	56	42	

Meteorological record for the five days ending June 20, 1872.

STATION: UNALASKA, ALASKA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Sunday, June 16....	1 23 a. m.	29. 85	54	44	29. 79	44	42	83	W.	3	. 04		0	0	Cumulus	4-4	W.						
	7 0 a. m.	29. 93	70	46	29. 80	46	42	69	W.	3	. 04	125	0	0	Cumulus	4-4	W.						
	10 23 a. m.	29. 93	70	46	29. 80	46	42	69	W.	3	. 04		0	0	Cumulus	4-4	W.						
	2 0 p. m.	30. 00	61	47	29. 92	47	44	77	N. W.	9	. 40		Nimbus	4-4									
	5 23 p. m.	30. 09	64	44	30. 00	44	40	67	N. W.	11	. 60		Nimbus	4-4				1.40 p. m.		. 01			
	9 0 p. m.	30. 17	69	41	30. 07	41	39	82	N. W.	6	. 18		0	0	Cumulus	3-4	N. W.		8.20 p. m.	. 00	49	41	
Monday, June 17...	1 23 a. m.	30. 28	52	39	30. 22	39	37	81	N. W.	9	. 40		0	0	Cumulus	3-4	N. W.						
	7 0 a. m.	30. 32	51	46	30. 26	46	43	76	N. W.	6	. 18	205	0	0	Cirrus...	1-4	W.						
	10 23 a. m.	30. 39	51	51	30. 33	51	45	59	W.	5	. 12		Stratus..	1-4	Cirrus...	1-4	N. W.						
	2 0 p. m.	30. 42	57	49	30. 35	49	41	43	W.	18	1. 62		Stratus..	1-4	Cirrus ..	1-4	N. W.						
	5 23 p. m.	30. 40	62	46	30. 31	46	40	54	W.	12	. 72		Stratus..	1-4	Cirrus...	1-4	N. W.						
	9 0 p. m.	30. 41	61	43	30. 33	43	38	58	W.	16	1. 28		Stratus..	1-4	Cirrus ..	1-4	N. W.				52	39	
Tuesday, June 18 ..	1 23 a. m.	30. 41	57	42	30. 34	42	37	57	S. W.	13	. 84		Stratus..	1-4	Cirrus...	1-2	W.						
	7 0 a. m.	30. 41	53	44	30. 35	44	40	67	W.	16	1. 28	250	Stratus..	1-2	Cirrus...	1-2	W.						
	10 23 a. m.	30. 44	72	47	30. 33	47	42	62	S. W.	12	. 72		Stratus..	1-2	Cirrus...	1-2	W.						
	2 0 p. m.	30. 30	70	46	30. 28	46	41	61	S. W.	13	. 84		0	0	Cirrus...	3-4	W.						
	5 23 p. m.	30. 35	66	47	30. 25	46	41	61	S. W.	11	. 60		Stratus..	1-4	Cirrus...	1-4	W.	2.10 p. m.	2.15 p. m.	. 00			
	9 0 p. m.	30. 31	59	43	30. 23	43	38	58	S. W.	16	1. 28		Stratus..	1-2	Cirrus...	1-2	W.				47	41	
Wednesday, June 19	1 23 a. m.	30. 23	52	41	30. 17	41	37	65	S. W.	12	. 72		Stratus..	4-4									
	7 0 a. m.	30. 25	50	44	30. 20	44	40	67	S. W.	13	. 84	274	Stratus..	1-2	Cirrus ..	1-4	W.						
	10 23 a. m.	30. 28	53	47	30. 22	47	44	77	S. W.	19	1. 80		Stratus..	4-4									
	2 0 p. m.	30. 32	52	51	30. 26	51	48	79	N. W.	1	. 01		Stratus..	3-4	Cirrus ...	1-4	W.						
	5 23 p. m	30. 29	58	51	30. 21	51	45	59	S. W.	12	. 72		Stratus..	3-4	Cirrus...	1-4	W.						
	9 0 p. m.	30. 32	68	51	30. 22	54	46	65	W.	10	. 50		Stratus..	1-2	Cirrus...	1-2	N. W.				52	40	
Thursday, June 20.	1 23 a. m.	30. 28	57	47	30. 21	47	43	69	S. W.	12	. 72		Stratus..	1-2	Cirrus...	1-2	N. W.						
	7 0 a. m.	30. 21	52	48	30. 15	48	45	77	S. W.	13	. 84	316	Stratus..	1-2	Cirrus...	1-2	N. W.						
	10 23 a. m.	30. 19	54	53	30. 13	53	46	54	S. W.	14	. 98		Stratus..	1-2	Cirrus...	1-2	W.						
	2 0 p. m	30. 24	69	53	30. 14	53	47	60	S. W.	15	1. 12		Stratus..	1-2	Cirrus...	1-2	W.						
	5 23 p. m.	30. 22	66	51	30. 12	51	45	59	S. W.	12	. 72		Stratus..	3-4	Cirrus...	1-4	W.						
	9 0 p. m.	30. 24	65	49	30. 15	49	44	63	S. W.	8	. 32		Stratus..	1-4	Cumulus	3-4	W.				55	47	

STATION: UNALASKA, ALASKA.

Day and date of observation.	Time of observation.	Barometer.	THERM. Attached.	THERM. Exposed.	Corrected barometer.	HYGROM. Dry bulb.	HYGROM. Wet bulb.	Relative humidity.	WIND. Direction.	WIND. Velocity per hour.	WIND. Pressure per sq. ft.	WIND. Daily velocity.	LOWER CLOUDS Kind.	LOWER CLOUDS Amount.	UPPER CLOUDS. Kind.	UPPER CLOUDS. Amount.	UPPER CLOUDS. Direction, (moving from—)	RAIN OR SNOW. Commen'd.	RAIN OR SNOW. Ended.	Amount of rain or melted snow.	THERM. Maximum.	THERM. Minimum.	Remarks.
Friday, June 21	1 23 a. m.	30. 25	59	45	30. 17	45	42	76	S.W.	9	.40	....	0	0	Cirrus ..	1-2	W.	....	....	....	....	....	
	7 0 a. m.	30. 24	56	48	30. 17	48	44	70	S.W.	12	.72	296	0	0	Cirrus ..	1-4	W.	....	....	....	....	....	
	10 23 a. m.	30. 27	56	49	30. 20	49	46	78	S.W.	13	.84	....	Stratus .	1-2	Cirrus ..	1-2	W.	....	....	....	....	....	
	2 0 p. m.	30. 31	62	56	30. 22	56	51	68	S.W.	16	1. 28	....	Stratus .	1-2	Cirrus ..	1-4	W.	....	....	....	....	....	
	5 23 p. m.	30. 34	65	54	30. 24	54	49	67	W.	14	.98	....	Stratus .	1-2	Cirrus ..	1-2	W.	....	....	....	....	....	
	9 0 p. m.	30. 37	66	51	30. 27	51	47	72	W.	18	1. 62	....	Stratus	1-2	Cirrus ..	1-4	W.	8.35 p. m.	8.55 p. m.	.00	....	....	
Saturday, June 22..	1 23 a. m.	30. 41	59	48	30. 33	48	41	70	W.	14	.98	....	0	0	Cumulus	1-2	W.	....	....	....	58	45	
	7 0 a. m.	30. 45	58	50	30. 37	50	47	78	W.	12	.72	309	Stratus .	1-4	Cirrus ..	3-4	W.	....	....	....	....	....	
	10 23 a. m.	30. 47	57	57	30. 40	57	53	75	W.	13	.84	....	Stratus .	1-4	Cirrus ..	1-4	W.	....	....	....	....	....	
	2 0 p. m.	30. 48	58	54	30. 40	53	49	73	W.	11	.60	....	0	0	Cirrus ..	1-2	W.	....	....	....	....	....	
	5 23 p. m	30. 50	58	53	30. 42	53	48	66	W.	9	.40	....	0	0	Cirrus ..	4-4	W.	....	....	...	....	....	
	9 0 p. m.	30. 53	56	49	30. 46	49	45	71	W.	8	.32	....	0	0	Cirrus ..	4-4	0	....	....	....	....	....	
Sunday, June 23 ...	1 23 a. m.	30. 53	56	46	30. 46	46	43	76	N. W.	3	.04	....	0	0	....	4-4	......	....	....	....	58	48	
	7 0 a. m.	30. 53	57	45	30. 46	45	44	92	N. E.	1	.01	179	Stratus .	1-2	Cirrus ..	1-2	W.	....	....	....	....	....	
	10 23 a. m.	30. 52	70	51	30. 41	51	48	79	N. E.	3	.04	....	Stratus .	1-2	Cirrus ..	1-2	W.	....	....	....	....	....	
	2 0 p. m.	30. 51	71	49	30. 40	49	47	85	N. E.	4	.08	....	Stratus	3-4	Cirrus ..	1-4	W.	....	....	....	....	....	
	5 23 p. m.	30. 49	63	51	30. 40	51	46	65	N. E.	1	.01	....	Stratus .	1-4	Cirrus ..	3-4	W.	....	....	....	....	....	
	9 0 p. m.	30. 44	72	49	30. 33	49	47	85	0	0	0	....	Nimbus	4-4	....	....	......	6.10 p. m.	....	....	....	....	
Monday, June 24...	1 23 a. m.	30. 35	61	48	30. 27	48	45	77	0	0	0	....	0	0	....	4-4	......	....	D'g night	.05	51	44	
	7 0 a. m.	30. 22	59	53	30. 14	53	49	73	W.	8	.32	101	Stratus .	1-4	Cumulus	1-2	W.	....	....	....	....	...	
	10 23 a. m.	30. 22	59	54	30. 14	54	49	67	W.	13	.84	....	Stratus .	3-4	Cirrus ..	1-4	W.	....	....	....	....	....	
	2 0 p. m.	30. 24	68	58	30. 14	57	51	63	W.	13	.84	....	0	0	Cumulus	1 2	W.	....	....	....	....	....	
	5 23 p. m.	30. 24	66	53	30. 14	53	49	73	W.	12	.72	....	Stratus .	1-2	Cirrus ..	1-4	W,	....	....	....	....	....	
	9 0 p. m.	30, 23	68	50	30. 13	50	46	78	W.	12	.72	....	Stratus .	1-4	Cumulus	1-4	W.	....	....	....	....	....	
Tuesday, June 25 ..	1 23 a. m.	30. 19	58	48	30. 12	48	44	70	W.	11	.60	....	Stratus .	1-4	Cirrus ..	1-4	W.	....	....	....	59	48	
	7 0 a. m.	30. 14	56	48	30. 07	48	45	77	W.	13	.84	310	Stratus .	4-4	....	....	......	....	....	....	....	....	
	10 23 a. m.	30. 15	55	52	30. 08	52	48	72	W.	13	.84	....	Stratus .	3-4	Cirrus ..	1-4	W.	9.20 a. m.	....	....	....	....	
	2 0 p. m.	30. 17	67	47	30. 07	47	45	84	W.	9	.40	....	Stratus	4-4	....	....	......	....	....	....	....	....	
	5 23 p. m.	30. 12	57	49	30. 05	49	47	85	W.	8	.32	....	Stratus .	4-4	....	....	......	....	....	.03	....	....	
	9 0 p. m.	30. 11	66	47	30. 01	47	46	92	W.	11	.60	....	Stratus .	4-4	....	....	......	....	....	....	53	47	

Meteorological record for the five days ending June 30, 1872.

STATION: UNALASKA, ALASKA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'nc'd	Ended.		Maximum.	Minimum.	
Wednesday, June 26	1 23 a. m.	30. 09	59	48	30. 01	48	46	85	S. W.	5	. 12	...	Stratus..	1-2	Cumulus	1-2	S. W.	....	D'g night	. 06	...	...	
	7 0 a. m.	29. 91	57	53	29. 84	53	51	86	S. W.	9	. 40	230	Stratus..	3-4	Cirrus ..	1-4	W.	....	....	...	...	...	
	10 23 a. m.	29. 91	57	56	29. 84	56	53	80	W.	11	. 60	....	Stratus..	1-2	Cirrus ..	1-2	W.	....	....	...	...	...	
	2 0 p. m.	29. 88	57	57	29. 81	57	53	75	W.	11	. 60	....	Stratus..	3-4	Cirrus ..	1-4	W.	....	....	...	...	...	
	5 23 p. m.	29. 89	69	59	29. 79	59	55	76	W.	6	. 18	....	Stratus..	1-2	Cirrus ..	1-2	W.	....	....	...	...	...	
	9 0 p. m	29. 82	62	55	29. 73	55	52	80	S. W.	10	. 50	....	Stratus..	1-2	Cirrus ..	1-2	W.	....	....	...	59	47	
Thursday, June 27 .	1 23 a. m.	29. 75	60	53	29. 67	53	51	86	S. W.	4	. 08	....	Stratus..	4-4	....	...	......	....	....	...	...	...	
	7 0 a. m.	29. 65	59	55	29. 57	55	52	80	S. W.	6	. 18	159	Stratus..	4-4	....	...	......	....	....	...	...	...	
	10 23 a. m.	29. 62	57	59	29. 55	59	56	81	S. W.	2	. 02	....	0	0	Cumulus	1-4	S. W.	....	....	...	...	...	
	2 0 p. m.	29. 62	56	52	29. 55	52	49	79	S. W.	6	. 18	....	Stratus..	3-4	Cirrus ..	1-4	W.	....	....	...	...	...	
	5 23 p. m.	29. 61	57	52	29. 54	52	48	72	S. W.	5	. 12	....	Stratus..	3-4	Cirrus ..	1-4	W.	....	....	...	...	...	
	9 0 p. m.	29. 68	57	52	29. 61	52	48	72	S. W.	6	. 18	....	0	0	Cumulus	3-4	W.	....	....	...	61	52	
Friday, June 28....	1 23 a. m.	29. 66	56	47	29. 59	47	44	77	W.	8	. 32	....	0	0	Cumulus	3-4	W.	....	....	...	...	...	
	7 0 a. m.	29. 65	55	49	29. 58	49	45	71	W.	10	. 50	246	0	0	Cumulus	3-4	W.	....	....	...	...	...	
	10 23 a. m.	29. 68	54	50	29. 62	50	46	71	W.	11	. 60	....	0	0	Cumulus	1-2	W.	....	....	...	...	...	
	2 0 p. m.	29. 71	54	51	29. 65	51	46	65	W.	12	. 72	....	Stratus..	1-4	Cumulus	1-4	W.	....	....	...	...	...	
	5 23 p. m.	29. 78	55	47	29. 71	47	43	69	W.	11	. 60	....	0	0	0	0	0	....	....	...	...	...	
	9 0 p. m.	29. 82	72	43	29. 70	43	40	75	W.	9	. 40	....	Stratus..	1-4	0	0	0	....	....	...	52	43	
Saturday, June 29..	1 23 a. m.	29. 80	58	42	29. 73	42	39	74	W.	15	1. 12	....	Stratus..	4-4	....	....	......	D'g night	....	. 01	...	...	
	7 0 a. m	29. 73	53	44	29. 67	44	41	75	W.	7	. 24	277	Stratus..	4-4	....	....	......	....	....	...	...	...	
	10 23 a. m.	29. 74	62	49	29. 66	49	45	71	W.	14	. 98	....	Nimbus .	4-4	....	....	......	....	....	...	...	...	
	2 0 p. m.	29. 75	69	48	29. 65	48	44	70	W.	12	. 72	....	Nimbus .	4-4	....	....	......	....	....	...	...	...	
	5 23 p. m.	29. 73	57	48	29. 66	48	44	70	W.	21	2. 20	....	Stratus..	4-4	....	....	......	....	....	. 01	...	...	
	9 0 p. m.	29. 77	55	44	29. 70	44	43	91	W.	23	2. 64	....	Nimbus .	4-4	....	....	......	....	....	...	50	42	
Sunday, June 30...	1 23 a. m.	29. 85	56	43	29. 78	43	41	83	W.	13	. 84	....	Nimbus .	4-4	....	....	......	....	....	. 09	...	...	
	7 0 a. m.	29. 92	52	44	29. 86	44	41	75	W.	15	1. 12	371	Stratus..	4-4	....	....	......	....	....	...	...	...	
	10 23 a. m.	29. 94	61	48	29. 86	48	45	77	W.	14	. 98	....	Stratus..	4-4	....	....	......	....	....	. 07	...	...	
	2 0 p. m.	29. 98	64	49	29. 89	49	46	78	N. W.	16	1. 28	....	Stratus..	4-4	....	....	......	....	....	...	...	...	
	5 23 p. m.	30. 04	68	47	29. 94	47	44	77	N. W.	18	1. 62	....	Stratus..	4-4	....	....	......	....	....	. 08	...	...	
	9 0 p. m.	30. 09	62	45	30. 00	45	43	84	N. W.	13	. 84	....	Stratus..	4-4	....	....	......	....	4 50 p. m	....	B'k	B'k	

Meteorological record for the five days ending July 5, 1872.

STATION: UNALASKA, ALASKA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Monday, July 1 ...	1 23 a. m.	30. 12	55	44	30. 05	44	42	83	N. W.	7	.24	....	Stratus .	4-4	....	....	......	....	....	....	....	....	
	7 0 a. m.	30. 13	50	45	30. 08	45	43	84	N. W.	6	.18	324	Stratus .	1-4	Cumulus	1-4	N. W.	....	....	....	....	....	
	10 23 a. m.	30. 14	49	48	30. 09	48	45	77	N. W.	6	.18	....	Stratus .	1-4	Cumulus	1-4	N. W.	....	....	....	....	....	
	2 0 p. m.	30. 19	65	48	30. 10	48	45	77	N. W.	12	.72	....	0	0	Cumulus	3-4	N. W.	....	....	....	....	....	
	5 23 p. m.	30. 22	62	46	30. 13	46	43	76	N. W.	11	.60	....	0	0	Cumulus	3-4	N. W.	....	....	....	....	....	
	9 0 p. m.	30. 20	48	43	30. 15	43	41	83	N. W.	7	.24	....	0	0	Cumulus	3-4	N. W.	....	....	....	50	42	
Tuesday, July 2....	1 23 a. m.	30. 21	50	42	30. 16	42	40	82	N.	3	.04	....	Stratus .	2-4	Cirrus ..	1-4	N. W.	....	....	....	....	....	
	7 0 a. m.	30. 24	52	45	30. 18	45	43	84	N. E.	1	.01	170	Stratus	3-4	Cirrus ..	1-4	N. W.	....	....	....	....	....	
	10 23 a. m.	30. 22	49	50	30. 17	50	47	78	N. E.	6	.18	....	0	0	Cirrus ..	1-4	N. W.	....	....	....	....	....	
	2 0 p. m.	30. 19	49	45	30. 14	45	44	92	N. E.	9	.40	....	Fog.....	1-4	Cirrus ..	1-4	N. W.	....	....	....	....	....	
	5 23 p. m.	30. 13	48	45	30. 08	44	43	91	N. E.	5	.12	....	Stratus .	1-4	Cirrus ..	1-4	N. W.	....	....	....	....	....	
	9 0 p. m.	30. 05	48	47	30. 00	47	43	69	N. W.	1	.01	....	0	0	Cirrus ..	4-4	N. W.	....	....	....	49	43	
Wednesday, July 3.	1 23 a. m.	29. 98	49	46	29. 93	46	43	76	S. E.	8	.32	....	0	0	....	4-4	......	....	....	....	....	....	
	7 0 a. m.	29. 84	51	45	29. 78	45	43	84	S. E.	10	.50	177	Stratus .	3-4	Cirrus ..	1-4	......	....	....	....	....	....	
	10 23 a. m.	29. 83	60	49	29. 75	49	45	71	S. E.	12	.72	....	Stratus .	2-4	Cirrus ..	2-4	N. W.	7 30 a. m.	7 40 a. m.	.00	....	....	
	2 0 p. m.	29. 76	52	50	29. 70	50	46	71	S. E.	14	.98	....	Stratus .	2-4	Cirrus ..	2-4	N. W.	....	....	....	....	....	
	5 23 p. m.	29. 70	52	48	29. 64	48	45	77	S. E.	12	.72	....	Stratus .	1-4	Cirrus ..	3-4	N. W.	....	....	....	....	....	
	9 0 p. m.	29. 68	52	44	29. 62	44	42	83	S. E.	7	.24	....	Stratus .	3-4	Cirrus ..	1-4	N. W.	....	....	....	50	42	
Thursday, July 4 ..	1 23 a. m.	29. 58	51	43	29. 53	43	41	83	N. E.	1	.01	....	0	0	Cirrus ..	2-4	N. W.	....	....	....	....	....	
	7 0 a. m.	29. 59	51	46	29. 54	46	44	84	N. E.	1	.01	195	Hazy ...	....	Cirrus ..	2-4	N. W.	....	....	....	....	....	
	10 23 a. m.	29. 57	54	47	29. 51	47	44	77	N. E.	9	.40	....	Fog.....	1-4	Cirrus ..	1-4	W.	....	....	....	....	....	
	2 0 p. m.	29. 58	52	49	29. 52	49	46	78	N. E.	8	.32	....	0	0	Cirrus ..	1-4	W.	....	....	....	....	....	
	5 23 p. m.	29. 57	51	51	29. 52	51	49	85	N. E.	6	.18	....	Stratus .	1-4	Cirrus ..	1-4	W.	....	....	....	....	....	
	9 0 p. m.	29. 58	51	47	29. 53	47	44	77	E.	1	.01	....	Fog	1-4	Cirrus ..	1-4	W.	....	....	....	52	42	
Friday, July 5	1 23 a. m.	29. 59	50	44	29. 54	44	43	91	0	0	0	....	Fog	4-4	....	....	......	....	....	....	....	....	
	7 0 a. m.	29. 59	51	49	29. 54	49	46	78	S. E.	2	.02	144	Stratus .	1-4	Cirrus ..	1-4	W.	....	....	....	....	....	
	10 23 a. m.	29. 60	54	49	29. 54	49	45	71	S. E.	1	.01	....	0	0	Cirrus ..	1-4	W.	....	....	....	....	....	
	2 0 p. m.	29. 63	60	52	29. 55	52	49	79	N. E.	9	.40	....	Stratus .	1-4	0	0	0	....	....	....	....	....	
	5 23 p. m.	29. 63	57	54	29. 56	54	49	67	S. E.	10	.50	....	Stratus .	1 4	Cirrus ..	2-4	S. E.	....	....	....	....	....	
	9 0 p. m.	29. 61	54	49	29. 55	49	46	78	S. E.	7	.24	....	Stratus .	1-4	Cirrus ..	3-4	S. E.	....	....	....	54	42	

Meteorological record for the five days ending July 10, 1872.

STATION: UNALASKA, ALASKA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.		Maximum.	Minimum.	
Saturday, July 6	1 23 a. m.	29.69	52	47	29.54	47	45	84	0	0	0	....	Stratus	4-4	....	....	....	....	....	....	....	....	
	7 0 a. m.	29.58	51	49	29.53	49	47	85	N. E.	6	.18	166	Stratus	4-4	....	....	....	....	....	....	....	....	
	10 23 a. m.	29.57	52	51	29.51	51	48	79	N. E.	1	.01	....	Stratus	4-4	....	....	....	Night	....	.02	....	....	
	2 0 p. m.	29.50	53	49	29.44	49	47	85	N. W.	3	.04	....	Stratus	4-4	....	....	....	....	....	....	....	....	
	5 23 p. m.	29.43	63	49	29.34	49	46	78	N. W.	7	.24	....	0	0	Cumulus	4-4	N. W.	....	5.10 p. m.	.09	....	....	
	9 0 p. m.	29.40	63	45	29.31	45	44	92	N. E.	8	.32	....	Stratus	4-4	....	....	....	....	....	....	54	45	
Sunday, July 7	1 23 a. m.	29.44	55	45	29.37	45	44	92	N. E.	18	1.62	....	Nimbus	4-4	....	....	....	Night	....	.12	....	....	
	7 0 a. m.	29.59	52	46	29.53	47	44	77	N. E.	13	.84	226	Stratus	1-4	Cumulus	3-4	N. E.	....	....	....	....	....	
	10 23 a. m.	29.64	65	49	29.55	49	47	85	N. W.	4	.08	....	Stratus	1-2	Cirrus	1-2	N.	....	6.20 a. m.	.22	....	....	
	2 0 p. m.	29.67	58	47	29.60	47	45	84	N.	19	1.80	....	Hazy	....	Cumulus	4-4	N.	....	....	....	....	....	
	5 23 p. m.	29.70	60	47	29.62	47	44	77	N.	15	1.12	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	9 0 p. m.	29.75	62	45	29.67	45	43	84	N.	12	.72	....	Stratus	1-4	Cumulus	1-4	N. E.	....	....	....	50	45	
Monday, July 8	1 23 a. m	29.76	51	44	29.70	44	43	91	N.	18	1.62	....	0	0	....	....	N.	D'g night.	D'g night.	.02	....	....	
	7 0 a. m.	29.78	62	46	29.69	46	43	76	N. W.	12	.72	315	Stratus	3-4	Cumulus	1-4	N.	....	....	....	....	....	
	10 23 a. m.	29.80	67	52	29.70	52	47	66	N. W.	10	.50	....	Stratus	3-4	Cumulus	1-4	N. W.	....	....	....	....	....	
	2 0 p. m.	29.76	59	54	29.68	54	48	61	N. W.	12	.72	....	0	0	Cumulus	1-4	N. W.	....	....	....	....	....	
	5 23 p. m.	29.76	56	47	29.69	47	44	77	W.	11	.60	....	Stratus	1-2	Cirrus	1-2	W.	....	....	....	....	....	
	9 0 p. m.	29.75	59	46	29.67	46	43	76	W.	9	.40	....	Stratus	1-4	Cumulus	3-4	W.	....	....	....	54	44	
Tuesday, July 9	1 23 a. m.	29.79	56	45	29.72	45	43	84	N.	9	.40	....	Stratus	1-2	Cirrus	1-2	N. W.	....	....	....	....	....	
	7 0 a. m.	29.84	60	50	29.76	50	47	78	N. E.	6	.18	235	0	0	Cirrus	3-4	N. W.	....	....	....	....	....	
	10 23 a. m.	29.87	63	49	29.78	49	46	78	N. E.	4	.08	....	Stratus	1-4	Cirrus	1-4	N. W.	....	....	....	....	....	
	2 0 p. m.	29.92	66	47	29.82	47	45	84	N. E.	15	1.12	....	Stratus	4-4	....	....	....	....	....	....	....	....	
	5 23 p. m.	29.95	67	50	29.85	50	48	85	N.	14	.98	....	Stratus	1-4	Cumulus	1-4	N.	....	....	....	....	....	
	9 0 p. m.	29.95	55	47	29.88	47	46	92	E.	6	.18	....	Stratus	1-4	0	0	0	....	....	....	50	45	
Wednesday, July 10	1 23 a. m.	29.96	55	44	29.88	44	42	83	N. E.	8	.32	....	Fog	1-4	0	0	0	....	....	....	....	....	
	7 0 a. m.	29.96	55	46	29.89	46	44	84	N. E.	4	.08	233	0	0	Cumulus	1-4	N. E.	....	....	....	....	....	
	10 23 a. m.	29.99	53	48	29.93	48	45	77	N. E.	12	.72	....	0	0	0	0	0	....	....	....	....	....	
	2 0 p. m.	30.00	52	48	29.94	48	46	85	N. E.	12	.72	....	0	0	Cirrus	1-4	N. W.	....	....	....	....	....	
	5 23 p. m.	30.01	51	46	29.95	46	44	84	N. E.	13	.84	....	0	0	Cirrus	1-4	N. W.	....	....	....	....	....	
	9 0 p. m.	30.05	55	43	29.98	43	42	91	N. E.	4	.08	....	Fog	4-4	....	....	....	....	....	....	50	43	

Meteorological record for the five days ending July 15, 1872.

STATION: UNALASKA, ALASKA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Thursday, July 11..	1 23 a. m.	30. 03	52	42	29. 97	42	41	91	N. E.	1	. 01	....	Fog.....	4-4	....	....	......	....	....	....	....	....	
	7 0 a. m.	30. 00	65	46	29. 91	46	44	84	N. E.	5	. 12	176	0	0	Cirrus ..	1-4	N.W.	....	....	....	....	....	
	10 23 a. m.	29. 94	57	48	29. 87	48	46	75	N. E.	6	. 18	....	0	0	Cirrus ..	1-2	N.W.	....	....	....	....	....	
	2 0 p. m.	29. 86	54	49	29. 80	49	47	85	N. E.	7	. 24	....	Stratus .	1-4	Cirrus ..	3-4	N W.	....	....	....	....	....	
	5 23 p. m.	29. 80	53	49	29. 74	49	46	78	S. E.	10	. 50	....	Stratus .	1-4	Cirrus ..	1-4	N.W.	4.20 p. m.	5.15 p. m.	. 01	....	....	
	9 0 p. m.	29. 73	52	48	29. 67	48	45	77	S.	13	. 84	....	Stratus .	3-4	0	0	0	....	....	....	52	42	
Friday, July 12....	1 23 a. m.	29. 74	52	47	29. 68	47	45	84	S. W.	1	. 01	....	Stratus .	1-2	0	0	0	....	....	....	....	....	
	7 0 a. m.	29. 75	52	50	29. 69	50	47	78	W.	4	. 08	176	0	0	Cumulus	1-4	W.	....	....	....	....	....	
	10 23 a. m.	29. 75	53	53	29. 69	53	50	79	W.	11	. 60	....	0	0	Cumulus	1-4	W.	....	....	....	....	....	
	2 0 p. m.	29. 75	53	51	29. 69	51	48	79	N. E.	10	. 50	....	Stratus .	1-2	Cirrus ..	1-2	S. W.	....	....	....	....	....	
	5 23 p. m.	29. 81	64	48	29. 72	48	46	85	N. E.	3	:04	....	Stratus .	4-4	....	....	......	....	....	....	....	....	
	9 0 p. m.	29. 79	56	48	29. 72	48	46	85	S.	4	. 08	....	Nimbus.	4-4	....	....	......	7.15 p. m.	9.20 p. m.	. 01	53	47	
Saturday, July 13..	1 23 a. m.	29. 79	56	47	29. 72	47	45	84	S.	2	. 02	....	0	0	....	....	......	....	....	....	....	....	
	7 0 a. m.	29. 78	54	49	29. 72	49	47	85	S.	4	. 08	148	Stratus .	1-2	Cirrus ..	1-2	S. W.	....	....	....	....	....	
	10 23 a. m.	29. 80	53	52	29. 74	52	47	66	S.W.	5	. 12	..	Stratus	1-2	Cumulus	1-2	S. W.	....	....	....	....	....	
	2 0 p. m.	29. 81	52	53	29. 75	53	49	73	S.W.	5	. 12	....	Stratus .	4-4	....	....	......	....	....	....	....	....	
	5 23 p. m.	29. 81	54	47	29. 75	47	44	77	N. E.	4	. 08	....	0	0	Cumulus	4-4	N. E.	11.15 a. m.	....	. 14	....	....	
	9 0 p. m.	29. 85	53	46	29. 79	46	44	84	S.	3	. 04	....	Stratus .	1-2	Cirrus ..	1-2	S. W.	....	6.20 p. m.	. 02	53	46	
Sunday, July 14....	1 23 a. m.	29. 88	51	46	29. 82	46	44	84	N. E.	3	. 04	....	....	4-4	....	....	......	....	....	....	....	....	
	7 0 a. m.	29. 92	51	48	29. 86	48	46	85	N. E.	2	. 02	106	Stratus .	1-2	Cumulus	1-2	......	....	....	....	....	....	
	10 23 a. m.	29. 93	51	46	29. 87	46	45	92	N. E.	1	. 01	....	Stratus .	4-4	....	....	......	....	....	....	....	....	
	2 0 p. m.	29. 96	51	48	29. 90	48	46	85	N. E.	5	. 12	....	Stratus .	4-4	....	....	......	....	....	....	....	....	
	5 23 p. m.	29. 98	52	48	29. 92	48	46	85	N. E.	6	. 18	....	Stratus .	1-2	Cirrus ..	1-2	N. E.	11.50 a. m.	2.35 p. m.	. 03	....	....	
	9 0 p. m.	29. 99	52	46	29. 93	46	44	84	E.	2	. 02	....	0	0	Cumulus	3-4	E.	....	....	....	49	46	
Monday, July 15...	1 23 a. m.	30. 00	52	44	29. 94	44	42	83	N. E.	3	. 04	....	0	0	....	4-4	......	....	....	....	....	....	
	7 0 a. m.	30. 06	52	45	30. 00	45	43	84	N. E.	3	. 04	116	Stratus .	1-2	Cumulus	1-2	N. E.	....	....	....	....	....	
	10 23 a. m.	30. 08	50	48	30. 03	48	46	85	N. E.	4	. 08	....	Stratus .	1-2	Cirrus ..	1-2	N.	....	....	....	....	....	
	2 0 p. m.	30. 10	51	48	30. 04	48	46	85	N. E.	4	. 08	....	Stratus .	1-2	Cumulus	1-2	W.	....	....	....	....	....	
	5 23 p. m.	30. 11	51	46	30. 05	46	45	92	N. E.	8	. 32	....	Nimbus.	4-4	....	....	......	4.50 p. m.	....	. 02	....	....	
	9 9 p. m.	30. 12	50	46	30. 07	46	45	92	S.	1	. 01	....	Stratus .	1-4	Cumulus	3-4	S.	....	8.20 p. m.	. 05	B'k	B'k	

Meteorological record for the five days ending July 20, 1872.

STATION: UNALASKA, ALASKA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.		Maximum.	Minimum.	
Tuesday, July 16...	1 23 a. m.	30. 09	51	45	30. 03	45	44	92	S.	8	.32	....	0	0	....	4-4	......	....	....	....	....	....	
	7 0 a. m.	30 03	52	48	29. 97	48	46	85	S.	9	.40	218	0	0	Cumulus	4-4	S.	....	....	....	....	....	
	10 23 a. m.	30. 02	51	50	29. 96	50	47	78	S.	12	.72	....	Stratus	4-4	....	...	......	9.50 a. m.	....	.01	....	....	
	2 0 p. m.	29. 98	51	50	29. 92	50	47	78	S.	14	.98	....	0	0	Cumulus	4-4	S.	....	....	....	....	....	
	5 23 p. m.	29. 94	51	48	29. 88	48	46	85	S.	15	1.12	....	Stratus	4-4	....	...	......	....	....	.05	....	....	
	9 0 p. m.	29. 91	51	48	29. 85	48	46	85	S.	11	.60	....	Stratus	1-4	Cumulus	3-4	S.	....	....	....	50	46	
Wednesday, July 17	1 23 a. m.	29. 81	51	49	29. 75	49	47	85	S.	18	1.62	....	Stratus	4-4	....	...	......	....	....	.16	....	....	
	7 0 a. m.	29. 67	51	51	29. 62	51	48	79	S. E.	13	.84	344	Nimbus	4-4	....	...	......	....	....	....	....	....	
	10 23 a. m.	29. 63	51	50	29. 58	50	48	85	S.	11	.60	....	Stratus	1-4	Cumulus	3-4	S.	....	....	.09	....	....	
	2 0 p. m.	29. 60	52	51	29. 54	51	49	85	S.	14	.98	....	Stratus	4-4	....	...	......	....	....	....	....	....	
	5 23 p. m.	29. 61	70	54	29. 51	54	50	73	S.	8	.32	....	Stratus	1-2	Cirrus	1-4	S.	....	2.50 a. m.	.03	....	....	
	9 0 p. m.	29. 59	59	49	29. 51	49	47	85	S. W.	3	.04	....	Stratus	3-4	Cumulus	1-4	S. W.	....	....	....	55	48	
Thursday, July 18.	1 23 a. m.	29. 58	54	48	29. 52	48	47	92	N. E.	3	.04	....	Fog	4-4	....	...	......	....	....	....	....	....	
	7 0 a. m.	29. 59	53	49	29. 53	49	46	78	S.	5	.12	208	0	0	Cumulus	1-2	S.	....	....	....	....	....	
	10 23 a. m.	29. 60	53	52	29. 54	52	48	72	S.	9	.40	....	0	0	Cumulus	4-4	S.	9.50 a. m.	10.00 a. m.	.01	....	....	
	2 0 p. m.	29. 59	54	53	29. 53	53	49	73	S.	11	.60	....	0	0	Cumulus	4-4	S.	....	....	....	....	....	
	5 23 p. m.	29. 65	53	51	29. 50	51	47	72	S. W.	6	.18	....	0	0	Cumulus	4-4	S. W.	....	....	....	....	....	
	9 0 p. m.	29. 67	53	49	29. 61	49	44	63	S. W.	3	.04	....	Stratus	1-4	Cumulus	1-2	S. W.	....	....	....	54	48	
Friday, July 19....	1 23 a. m.	29. 76	52	47	29. 70	47	44	77	S. W.	4	.08	....	0	0	Cumulus	3-4	S. W.	....	....	....	....	....	
	7 0 a. m.	29. 90	52	49	29. 84	49	45	71	S. W.	6	.18	181	Stratus	1-4	Cirrus	1-4	S. W.	....	....	....	....	....	
	10 23 a. m.	29. 94	53	52	29. 88	52	48	72	W.	5	.12	....	Stratus	1-4	Cirrus	1-4	S. W.	....	....	....	....	....	
	2 0 p. m.	30. 00	55	58	29. 93	58	52	64	W.	9	.40	....	0	0	Cirrus	1-2	S. W.	....	....	....	....	....	
	5 33 p. m.	30. 02	54	51	29. 96	51	47	72	N. E.	1	.01	....	Stratus	1-4	Cirrus	1-2	S. W.	....	....	....	....	....	
	9 0 p. m.	30. 05	52	49	29. 99	49	45	71	S.	4	.08	....	Stratus	1-2	Cirrus	1-2	S. W.	....	....	....	59	47	
Saturday, July 20..	1 23 a. m.	30. 02	52	49	29. 96	49	46	78	S.	10	.50	....	Stratus	4-4	....	...	......	....	....	....	....	....	
	7 0 a. m.	29. 97	52	49	29. 91	49	46	78	S.	9	.40	165	Stratus	4-4	....	...	......	....	....	....	....	....	
	10 23 a. m.	29. 97	52	51	29. 91	51	48	79	S.	11	.60	....	Stratus	4-4	....	...	......	10.00 a. m.	10.30 a. m.	.00	....	....	
	2 0 p. m.	29. 93	54	53	29. 87	53	49	73	S.	11	.60	....	Stratus	3-4	Cirrus	1-4	S. W.	....	....	....	....	....	
	5 23 p. m.	29. 91	53	51	29. 85	51	47	72	S. W.	7	.24	....	0	0	Cumulus	3-4	S. W.	....	....	....	....	....	
	9 0 p. m.	29. 88	58	48	29. 81	48	44	70	S. W.	10	.50	....	Stratus	3-4	Cirrus	1-4	S. W.	....	....	....	54	48	

STATION: UNALASKA, ALASKA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commenc'd.	Ended.		Maximum.	Minimum.	
Sunday, July 21	1 23 a. m.	29.86	55	45	20.79	45	42	76	W.	2	.02	....	0	0	Cumulus	4-4	W.	10.45 p. m.	....	....	....	....	
	7 0 a. m.	29.85	52	44	29.79	44	42	83	S. W.	5	.12	176	Stratus	4-4	....	....	....	....	....	....	....	....	
	10 23 a. m.	29.86	52	49	29.80	49	46	78	W.	9	.40	....	0	0	Cumulus	3-4	W.	....	8.50 a. m.	.02	....	....	
	2 0 p. m.	29.91	52	50	29.85	50	45	64	W.	10	.50	....	0	0	Cumulus	4 4	W.	....	....	....	....	....	
	5 23 p. m.	29.94	52	49	29.88	49	44	63	W.	9	.40	....	0	0	Cumulus	3-4	W.	....	....	....	....	....	
	9 0 p. m.	30.01	53	45	29.95	45	42	76	W.	9	.40	....	0	0	Cumulus	3-4	W.	....	....	....	50	44	
Monday, July 22 ...	1 23 a. m.	30.07	51	44	30.01	44	41	75	W.	4	.08	....	0	0	Cumulus	4-4	W.	....	....	....	....	....	
	7 0 a. m.	30.16	50	48	30.11	48	44	70	W.	6	.18	196	0	0	Cumulus	4-4	S. E.	....	....	....	....	....	
	10 23 a. m.	30.16	51	49	30.10	49	45	71	N. E.	4	.08	....	Stratus	1-4	Cirrus	1-4	S. W.	....	....	....	....	....	
	2 0 p. m.	30.17	51	48	30.11	48	45	77	N. E.	8	.32	....	Stratus	1-4	Cirrus	1-2	S. W.	....	....	....	....	....	
	5 23 p. m	30.10	49	47	30.11	47	44	77	N. E.	7	.24	....	Stratus	3-4	Cirrus	1-4	S. W.	....	....	....	....	....	
	9 0 p. m.	30.17	50	45	30.12	45	42	76	E.	1	.01	....	Stratus	1-2	Cirrus	1-2	S. W.	....	....	....	55	44	
Tuesday, July 23...	1 23 a. m.	30.14	50	46	30.09	46	44	84	S. E.	3	.04	....	0	0	Cirrus	3-4	....	....	....	....	....	....	
	7 0 a. m.	30.11	51	49	30.05	49	47	85	S. E.	4	.08	135	Stratus	4-4	....	....	....	....	....	....	....	....	
	10 23 a. m.	30.11	51	52	30.05	52	49	79	S. E.	6	.18	....	Stratus	4-4	....	....	....	....	....	....	....	....	
	2 0 p. m.	30.11	52	49	30.05	52	49	79	S. E.	8	.32	....	Stratus	4-4	....	....	....	....	....	....	....	....	
	5 23 p. m.	30.08	51	48	30.02	48	47	92	S. E.	8	.32	....	Stratus	4-4	....	....	....	1.35 p. m.	....	.02	....	....	
	9 0 p. m.	30.11	54	47	30.05	47	46	92	S. E.	7	.24	....	Stratus	4-4	....	....	....	....	....	....	52	46	
Wednesday, July 24	1 23 a. m.	30.11	51	47	30.05	47	46	92	S. E.	6	.18	....	Stratus	4-4	....	....	....	....	....	.10	....	....	
	7 0 a. m.	30.14	52	49	30.08	49	48	92	S.	8	.32	....	Stratus	1-2	Cirrus	1-2	....	....	....	....	....	....	
	10 23 a. m.	30.11	52	47	30.05	47	46	92	S. E.	6	.18	195	Stratus	1-2	Cirrus	1-2	....	....	....	.04	....	....	
	2 0 p. m.	30.15	54	56	30.09	56	54	87	S. E.	4	.08	....	Stratus	1-2	Cirrus	1-2	S.	....	....	....	....	....	
	5 23 p. m.	30.14	53	52	30.08	52	51	93	S. E.	12	.72	....	Stratus	3-4	Cirrus	1-4	S.	....	....	.01	....	....	
	9 0 p. m.	30.14	52	52	30.08	52	50	86	S. E.	12	.72	....	Stratus	4-4	....	....	....	....	....	....	56	47	
Thursday, July 25..	1 23 a. m.	30.14	52	53	30.08	53	52	93	S.	11	.60	....	Stratus	1-2	Cirrus	1-2	S.	....	....	.02	....	....	
	7 0 a. m.	30.14	57	59	30.07	59	56	81	S.	8	.32	304	Stratus	1-2	Cirrus	1-2	S.	....	....	....	....	....	
	10 23 a. m.	30.14	66	61	30.04	61	58	82	S.	2	.02	....	Stratus	3-4	Cirrus	1-4	S. W.	....	11.40 a. m.	.03	....	....	
	2 0 p. m.	30.10	65	62	30.01	62	59	82	S.	9	.40	....	Stratus	1-2	Cirrus	1-4	S. W.	....	....	....	....	....	
	5 23 p. m.	30.11	62	58	30.02	58	55	81	S.	2	.02	....	Stratus	1-4	Cirrus	3-4	S. W.	....	....	....	....	....	
	9 0 p. m.	30.13	58	52	30.06	52	51	93	N. W.	9	.40	....	Stratus	1-4	Cirrus	1-2	S.	....	....	....	71	52	

Meteorological record for the five days ending July 30, 1872.

STATION: UNALASKA, ALASKA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Friday, July 26	1 23 a. m.	30. 13	56	53	30. 06	53	51	86	W.	3	. 04		Stratus	1-2	Cirrus	1-2	S.						
	7 0 a. m.	30. 13	57	56	30. 06	56	53	80	S. W.	4	. 08	125	0	0.	Cumulus	1-4	S. W.						
	10 23 a. m.	30. 13	58	61	30. 06	61	58	82	W.	5	. 12		Stratus	1-4	Cumulus	1-4	W.						
	2 0 p. m.	30. 14	54	51	30. 08	51	48	79	N. E.	8	. 32		Stratus	1-4	Cirrus	1-4	W.						
	5 23 p. m.	30. 13	54	54	30. 07	54	51	80	S.	12	. 72		Stratus	1-4	Cumulus	3-4	S. W.						
	9 0 p. m.	30. 15	54	50	30. 09	50	47	78	W.	7	. 24		Stratus	4-4							64	50	
Saturday, July 27	1 23 a. m.	30. 15	53	48	30. 09	48	45	77	W.	11	. 60		Stratus	4-4									
	7 0 a. m.	30. 17	53	51	30. 11	51	48	79	W.	8	. 32	232	Stratus	3-4	0	0	0						Two earthquake shocks at 3 a. m.
	10 23 a. m.	30. 17	53	52	30. 11	52	49	79	W.	9	. 40		0	0	Cumulus	4-4	N. W.						
	2 0 p. m.	30. 21	54	54	30. 15	54	50	73	N. W.	8	. 32		Stratus	1-4	Cirrus	1-4	N. W.						
	5 23 p. m.	30. 23	54	51	30. 17	51	48	79	W.	5	. 12		Stratus	3-4	Cirrus	1-4							
	9 0 p. m.	30. 24	56	51	30. 17	51	49	85	W.	7	. 24		Stratus	1-2	Cirrus	1-4	N. W.				54	48	
Sunday, July 28	1 23 a. m.	30. 24	54	49	30. 18	49	48	92	N. W.	9	. 40		Stratus	4-4				Night		. 00			
	7 0 a. m.	30. 24	53	50	30. 18	50	48	85	N. E.	4	. 08	213	Stratus	1-2	Cirrus	1-2	N. W.						
	10 23 a. m.	30. 23	54	55	30. 17	55	53	86	W.	2	. 02		Stratus	4-4						. 02			
	2 0 p. m.	30. 17	56	62	30. 10	62	59	82	W.	4	. 08		Stratus	4-4									
	5 23 p. m.	30. 17	58	59	30. 10	59	57	87	N. W.	3	. 04		Stratus	4-4						. 03			
	9 0 p. m.	30. 17	57	54	30. 10	54	53	93	N.	8	. 32		Stratus	4-4							62	49	
Monday, July 29	1 23 a. m.	30. 26	55	46	30. 19	46	45	92	N.	12	. 72		Stratus	4-4					11.20 p. m	. 02			
	7 0 a. m.	30. 29	54	45	30. 22	45	43	84	N. E.	6	. 18	185	Stratus	1-4	Cirrus	1-4	N. W.						
	10 23 a. m.	30. 30	53	52	30. 24	52	50	86	N. E.	5	. 12		Stratus	1-4	Cirrus	1-4	N. W.						
	2 0 p. m.	30. 34	53	49	30. 28	49	48	92	N. E.	7	. 24		Fog	4-4									
	5 23 p. m.	30. 36	53	49	30. 30	49	47	85	N. E.	2	. 02		Stratus	3-4	Cirrus	1-4	N. W.						
	9 0 p. m.	30. 38	53	48	30. 32	48	46	85	0	0	0		Stratus	3-4	Cirrus	1-4	N. W.				59	45	
Tuesday, July 30	1 23 a. m.	30. 38	53	48	30. 32	48	47	92	N. E.	4	. 08		Stratus	4-4				11.00 p. m		00			
	7 0 a. m.	30. 38	52	50	30. 32	50	49	92	E.	2	. 02	130	Stratus	4-4									
	10 23 a. m.	30. 37	53	51	30. 31	51	50	92	0	0	0		Stratus	4-4						. 17			
	2 0 p. m.	30. 34	53	53	30. 28	53	52	83	E.	1	. 01		Stratus	4-4									
	5 23 p. m.	30. 31	53	55	30. 25	55	53	86	W.	8	. 32		Stratus	4-4					4.35 p. m.	. 22			
	9 0 p. m.	30. 33	57	52	30. 26	52	50	86	W.	7	. 24		Stratus	3-4	Cumulus	1-4	W.				55	48	

Meteorological record for the four days ending August 3, 1872.

STATION: UNALASKA, ALASKA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Wednesday, July 31	1 23 a. m.	30.34	56	50	30.27	50	49	92	N.	3	.04		Stratus	4-4				10.20 p. m.		.02			
	7 0 a. m.	30.33	52	50	30.27	50	48	85	N.	3	.04	234	0	0	Cumulus	4-4	W.						
	10 23 a. m.	30.32	52	49	30.26	49	47	85	E.	6	.18		Stratus	4-4					Night	.01			
	2 0 p. m.	30.29	51	49	30.23	49	48	92	N. E.	6	.18		Stratus	1-4	Cumulus	3-4	S. W.						
	5 23 p. m.	30.25	51	47	30.19	47	46	92	N. E.	9	.40		Stratus	4-4									
	9 0 p. m.	30.32	76	48	30.20	48	46	85	N. W.	1	.01		Stratus	4-4							52	47	
Thursday, Aug. 1	1 23 a. m.	30.27	61	47	30.19	47	45	84	N. E.	2	.02		Stratus	4-4									
	7 0 a. m.	30.22	55	49	30.15	49	47	85	N. E.	3	.04	154	Stratus	1-2	Cumulus	1-2	N. W.						
	10 23 a. m.	30.24	53	49	30.18	49	46	78	N. E.	6	.18		Stratus	1-4	Cumulus	3-4	W.	9.40 a. m.		.00			
	2 0 p. m.	30.21	51	48	30.15	48	46	85	N. E.	8	.32		Stratus	4-4									
	5 23 p. m.	30,18	52	48	30.12	48	46	85	N. E.	8	.32		Stratus	4-4					10.30 a. m.	.01			
	9 0 p. m.	30.14	52	48	30.08	48	47	92	N. E.	2	.02		Stratus	1-4	Cumulus	3-4	W.				50	47	
Friday, Aug. 2	1 23 a. m.	30.10	51	48	30.04	48	47	92	0	0	0			4-4									
	7 0 a. m.	30.06	53	51	30.00	51	49	85	0	0	0	143	Stratus	1-2	Cirrus	1-2	W.						
	10 23 a. m.	30.02	54	56	29.96	56	53	80	W.	1	.01		Stratus	1-2	Cirrus	1-2	W.						
	2 0 p. m.	29.97	56	59	29.90	59	55	76	S. E.	6	.18		Stratus	1-2	Cirrus	1-2	W.						
	5 23 p. m.	29.87	55	54	29.80	54	51	80	S. E.	17	1.44		Stratus	3-4	Cumulus	1-4	S.	2.20 p. m.		.00			
	9 0 p. m.	29.85	55	52	29.78	52	50	86	S. E.	10	.50		Stratus	1-2	Cumulus	1-2	S.				61	46	
Saturday, Aug. 3	1 23 a. m.	29.85	55	51	29.78	51	50	92	S. E.	12	.72			4-4						.14			
	7 0 a. m.	29.84	55	52	29.77	52	50	86	S. E.	11	.60	236	Stratus	3-4	Cirrus	1-4	W.						
	10 23 a. m.	29.85	54	53	29.79	53	51	86	S. E.	14	.98		Stratus	4-4						.19			
	2 0 p. m.	29.90	54	52	29.84	52	50	86	S. E.	13	.84		Nimbus	4-4									
	5 23 p. m.	29.94	54	49	29.88	49	48	80	S. E.	9	.40		Nimbus	4-4						.09			
	9 0 p. m.	30.09	73	49	29.98	49	47	85	S. E.	14	.98		Nimbus	4-4									

Meteorological record for the five days ending August 22, 1872.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.		Maximum.	Minimum.	
Sunday, Aug 18	1 23 a. m	30. 01	62	48	29. 92	48	47	92	S.	16	1. 28	....	0	0	Cumulus	4-4	S.	10. 30 p. m.	....	. 01	....	...	
	7 0 a. m.	30. 00	60	48	29. 92	48	47	92	S. W.	17	1. 44	....	0	0	Cumulus	4-4	S. W.	....	....	....	....	....	
	10 23 a. m.	30. 01	64	49	29. 92	49	47	85	S. W.	26	3. 38	432	Stratus .	4-4	....	....	......	....	....	. 05	....	....	
	2 0 p. m	29. 97	64	49	29. 88	49	48	92	S. W.	25	3. 12	....	Stratus .	4-4	....	....	......	....	....	....	....	....	
	5 23 p. m	30. 02	66	48	29. 92	48	47	92	W.	26	3. 38	....	Stratus .	4-4	....	....	......	1. 20 p. m.	3. 50 p. m.	. 01	....	....	
	9 0 p. m.	30. 15	66	46	30. 05	46	45	92	W.	23	2. 64	....	Stratus .	4-4	....	....	......	....	....	....	50	48	
Monday, Aug. 19 ...	1 23 a. m.	30. 22	63	45	30. 13	45	44	92	W.	17	1. 44	....	Stratus .	4-4	....	....	......	....	....	....	....	....	
	7 0 a. m.	30. 32	60	45	30. 24	45	44	92	W.	11	. 60	....	Stratus .	4-4	....	....	......	....	....	....	....	....	
	10 23 a. m.	30. 34	64	48	30. 25	48	47	93	W.	9	. 40	287	Fog.....	3-4	....	....	......	....	....	....	...	....	
	2 0 p. m.	30. 33	63	49	30. 24	49	48	92	W.	14	. 98	....	Fog.....	1-2	0	0	0	....	....	....	....	....	
	5 23 p. m	30. 33	63	46	30. 24	46	45	92	W.	13	. 84	....	Fog.....	4-4	....	....	......	....	....	....	....	....	
	9 0 p. m.	30. 35	67	44	30. 25	44	44	100	W.	14	. 98	....	Fog.....	4-4	... .	....	......	....	....	....	50	45	
Tuesday, Aug. 20...	1 23 a. m.	30. 33	64	45	30. 24	45	44	92	W.	14	. 98	....	Fog ...	4-4	....	....	......	....	....	...	....	....	
	7 0 a. m.	30. 30	61	45	30. 22	45	45	100	W.	12	. 72	....	Stratus .	4-4	....	....	......	....	....	....	....	....	
	10 23 a. m.	30. 32	63	49	30. 23	49	48	93	W.	14	. 98	269	0	0	Cumulus	4-4	W.	....	....	....	....	....	
	2 0 p. m	30. 31	64	48	30. 22	48	47	92	W.	11	. 60	....	Stratus .	4-4	....	....	......	....	....	....	....	....	
	5 23 p. m.	30. 30	67	46	30. 20	46	45	93	W.	12	. 72	....	Stratus .	4-4	....	....	......	....	....	....	....	....	
	9 0 p. m.	30. 34	68	44	30. 24	44	43	91	W.	8	. 32	....	0	0	0	0	0	....	....	....	49	44	
Wednesday, Aug. 21	1 23 a. m	30. 33	66	46	30. 23	46	45	92	S. W.	6	. 18	....	Fog.....	4-4	....	....	......	....	....	....	....	....	
	7 0 a. m	30. 25	67	47	30. 15	47	46	92	S. W.	8	. 32	....	Fog.....	4-4	....	....	......	....	....	....	....	....	
	10 23 a. m	30. 21	70	49	30. 10	49	48	93	S. W.	10	. 50	241	Nimbus.	4-4	....	....	......	Night...	....	....	....	....	
	2 0 p. m	30. 20	67	50	30. 10	50	49	92	N. W.	11	. 60	....	Stratus .	4-4	....	....	......	....	....	....	....	....	
	5 23 p. m	30. 20	65	48	30. 11	48	47	93	N. W.	9	. 40	....	Stratus .	4-4	....	....	......	....	11 a. m ..	. 11	....	....	
	9 0 p. m.	30. 25	74	46	30. 13	46	45	93	N. W.	8	. 32	....	Fog.....	4-4	....	....	......	....	....	....	51	44	
Thursday, Aug. 22 .	1 23 a. m.	30. 25	68	45	30. 15	45	44	92	S.	3	. 04	....	Fog.....	4-4	....	....	......	....	....	....	....	....	
	7 0 a. m.	30. 27	64	47	30. 18	47	46	93	E.	2	. 02	....	Fog.....	4-4	....	....	......	....	....	....	....	....	
	10 23 a. m.	30. 30	69	49	30. 19	49	48	93	E.	3	. 04	124	Stratus .	1-2	Cirrus ..	1-2	E.	....	....	....	....	....	
	2 0 p. m.	30. 30	69	50	30. 19	50	49	92	S. E.	1	. 01	...	Stratus .	4-4	....	....	......	....	....	....	....	....	
	5 23 p. m.	30. 28	69	50	30. 17	50	48	85	S.	3	. 04	....	Stratus .	1-2	Cirrus ..	1-2	......	....	....	....	....	....	
	9 0 p. m.	30. 29	69	47	30. 18	47	46	93	Calm	0	. 00	....	Nimbus.	4-4	....	....	......	....	....	....	50	45	

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Friday, Aug. 23	1 23 a. m.	30. 26	66	46	30. 16	46	45	92	S.	1	.01		Fog	4-4				8.20 p. m.	Night	.01			
	7 0 a. m.	30. 19	62	48	30. 10	48	47	92	S. W.	5	.12		Fog	1-2	Cirrus	1-4	N. W.						
	10 23 a. m.	30. 18	67	50	30. 08	50	49	92	W.	7	.24	116	Fog	4-4									
	2 0 p. m.	30. 13	66	51	30. 03	51	50	92	S. W.	8	.32		Fog	4-4									
	5 23 p. m.	30. 08	67	49	29. 98	49	48	92	S. W.	9	.40		Fog	4-4									
	9 0 p. m.	30. 06	70	47	29. 95	47	46	92	S. W.	11	.60		Fog	4-4							52	46	
Saturday, Aug. 24	1 23 a. m.	30. 05	64	46	29. 96	46	45	92	S. W.	9	.40		Fog	4-4				7.30 p. m.	10.20 p. m.	.02			
	7 0 a. m.	29. 98	63	47	29. 89	47	46	92	W.	10	.50		Fog	4-4									
	10 23 a. m.	29. 97	65	49	29. 86	49	48	92	W.	8	.32	235	Fog	4-4									
	2 0 p. m.	29. 97	65	51	29. 88	51	49	85	W.	12	.72		Fog	4-4									
	5 23 p. m.	29. 95	66	48	29. 85	48	47	92	W.	12	.72		Fog	1-4	Cirrus	1-2	W.						
	9 0 p. m.	29. 96	65	49	29. 87	49	48	92	N.	13	.84		Stratus	4-4							51	46	
Sunday, Aug. 25	1 23 a. m.	30. 00	65	46	29. 91	46	44	84	N.	15	1. 12		0	0	Cumulus	4-4	N.	9.30 p. m.		.10			
	7 0 a. m.	30. 08	67	45	29. 98	45	42	76	N.	18	1. 62		0	0	Cumulus	4-4	N.						
	10 23 a. m.	30. 11	68	46	30. 01	46	43	76	N.	16	1. 28	442	0	0	Cumulus	4-4	N.						
	2 0 p. m.	30. 10	66	46	30. 00	46	43	76	N.	18	1. 62		0	0	Cumulus	4-4	N.		1.25 p. m.				
	5 23 p. m.	30. 07	63	46	29. 98	46	44	84	N.	16	1. 28		0	0	Cumulus	4-4	N.						
	9 0 p. m.	30. 10	68	45	30. 00	45	42	76	N.	16	1. 28		0	0	Cumulus	4-4	N.				49	45	
Monday, Aug. 26	1 23 a. m.	30. 08	67	44	29. 98	44	42	83	N.	12	.72		0	0	Cumulus	4-4	N.						
	7 0 a. m.	30. 08	67	46	29. 98	46	44	84	N.	13	.84		Stratus	1-4	Cumulus	1-4	N.						
	10 23 a. m.	30. 12	64	51	30. 03	51	47	72	N.	16	1. 28	349	0	0	0	0	0						
	2 0 p. m.	30. 11	62	51	30. 02	51	47	72	N.	9	.40		0	0	0	0	0						
	5 23 p. m.	30. 14	67	49	30. 04	49	46	78	N.	5	.12		0	0	Cirrus	1-4	N. W.						
	9 0 p. m.	30. 15	71	42	30. 04	42	41	91	N. W.	3	.04		0	0	Cirrus	1-4	N. W.				52	44	
Tuesday, Aug. 27	1 23 a. m.	30. 15	66	43	30. 05	43	42	91	N. W.	3	.04		Stratus	1-4	Cirrus	1-4	N. W.						
	7 0 a. m.	30. 14	61	46	30. 06	46	45	92	W.	3	.04		Stratus	1-2	Cirrus	1-2	N. W.						
	10 23 a. m.	30. 14	64	51	30. 05	51	49	85	S. W.	4	.08	112	Stratus	4-4				9.05 a. m.	9.15 a. m.	.00			
	2 0 p. m.	30. 14	62	48	30. 05	48	47	92	S. W.	4	.08		Stratus	4-4									
	5 23 p. m.	30. 14	71	48	30. 03	48	46	85	W.	7	.24		Stratus	1-2	Cirrus	1-2	W.						
	9 0 p. m.	30. 15	70	46	30. 04	46	45	92	S. W.	2	.02		Stratus	1-2	Cirrus	1-2					51	42	

Meteorological record for the five days ending September 1, 1872.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Wet bulb.	Dry bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Wednesday, Aug. 28	1 23 a. m.	30. 14	65	46	30. 05	46	45	92	S. W.	2	. 02	....	Stratus .	1-2	Cirrus ..	1-2	S.W.	....	....	....	....	....	
	7 a. m.	30. 11	62	47	30. 02	47	46	92	S. W.	4	. 06	....	Stratus .	1-2	Cirrus ..	1-2	S.W.	....	....	....	....	....	
	10 23 a. m.	30. 10	62	51	30. 01	51	48	79	S. W.	4	. 08	89	0	0	Cumulus	3-4	S W.	....	....	....	....	....	
	2 p. m.	30. 08	63	54	29. 99	54	51	80	S. W.	5	. 12	....	0	0	Cumulus	4-4	S.W.	....	....	....	....	....	
	5 23 p. m.	30. 05	63	51	29. 96	51	48	79	S. W.	3	. 04	....	0	0	Cumulus	4-4	S.W.	....	....	....	....	....	
	9 p. m.	30. 08	69	46	29. 98	46	44	84	S. W.	4	. 08	....	0	0	Cumulus	4-4	S.W.	....	....	....	54	46	Heavy swell.
Thursday, Aug. 29.	1 23 a. m.	30. 05	65	45	29. 96	45	44	92	S.	2	. 02	...	0	0	Cumulus	4-4	S.W.	....	....	....	....	....	
	7 a. m.	29. 99	61	46	29. 91	46	44	84	S. E.	4	. 06	....	0	0	Cumulus	4-4	S. E.	....	....	....	....	....	
	10 23 a. m.	29. 96	62	48	29. 87	48	45	77	E.	7	. 24	168	Stratus .	4-4	....	....	....	....	....	....	....	....	
	2 p. m.	29. 89	62	49	29. 80	49	47	85	E.	9	. 40	....	Stratus .	3-4	Cumulus	1-4	S. E.	....	....	....	....	....	
	5 23 p. m.	29. 86	73	47	29. 75	47	45	84	N. E.	11	. 60	....	Stratus .	1-4	Cirrus ..	1-2	S. E.	....	....	....	....	....	
	9 p. m.	29. 83	70	45	29. 72	45	44	92	E.	14	. 98	....	Stratus .	4-4	....	....	....	....	....	....	51	45	
Friday, Aug. 30....	1 23 a. m.	29. 74	64	46	29. 65	46	45	92	E.	21	2. 20	....	Stratus .	4-4	....	....	....	....	....	....	....	....	
	7 a. m.	29. 59	59	47	29. 51	47	46	92	N. E.	24	2. 88	....	Stratus .	4-4	....	....	....	....	....	....	....	....	
	10 23 a. m.	29. 56	70	47	29. 46	47	46	92	N. E.	20	2. 00	518	Stratus .	4-4	....	....	....	....	....	....	....	....	
	2 p. m.	29. 47	64	47	29. 38	47	46	92	N. E.	26	3. 38	....	Stratus .	4-4	....	....	....	....	....	....	....	....	
	5 23 p. m.	29. 41	65	47	29. 32	47	46	92	N. E.	28	3. 92	....	Stratus .	4-4	....	....	....	....	....	....	....	....	
	9 p. m.	29. 38	70	47	29. 28	47	46	92	N.	34	5. 78	....	Stratus .	4-4	....	....	....	....	....	....	48	45	Gale.
Saturday. Aug. 31..	1 23 a. m.	29. 35	65	46	29. 26	46	45	92	N.	35	6. 12	....	Stratus .	4-4	....	....	....	....	....	....	....	....	
	7 a. m.	29. 30	61	47	29. 22	47	46	92	N.	24	2. 88	....	Stratus	4-4	....	....	....	....	....	....	....	....	
	10 23 a. m.	29. 29	65	48	29. 20	48	47	92	N.	27	3. 64	632	Stratus .	4-4	....	....	....	....	....	....	....	....	
	2 p. m.	29. 30	66	48	29. 21	48	47	92	N.	27	3. 64	....	Stratus .	4-4	....	....	....	....	....	....	....	....	
	5 23 p. m.	29. 32	69	46	29. 22	46	45	92	N.	40	8. 00	....	Stratus .	4-4	....	....	....	....	....	....	....	....	
	9 p. m.	29. 38	75	45	29. 26	45	44	92	N.	41	8. 40	....	Stratus .	4-4	....	....	....	....	....	....	48	45	Gale.
Sunday, Sept. 1....	1 23 a. m.	29. 41	66	45	29. 32	45	44	92	N.	33	5. 44	....	Stratus .	4-4	....	....	....	D'g night	D'g night	. 14	....	....	
	7 a. m.	29. 45	60	45	26. 37	45	44	92	N.	22	2. 42	....	Stratus .	4-4	....	....	....	....	....	....	....	....	
	10 23 a. m.	29. 54	68	46	29. 44	46	45	92	N.	21	2. 20	605	Stratus .	4-4	....	....	....	D'g night	D'g night	. 15	....	....	
	2 p. m.	29. 57	60	46	29. 49	46	45	92	N.	23	2. 64	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	5 23 p. m.	29. 62	64	44	29. 53	44	43	91	N.	20	2. 00	....	0	0	Cumulus	3-4	N.	....	....	....	....	....	
	9 p. m.	29. 71	73	41	29. 60	41	40	91	N.	7	. 24	....	0	0	0	0	0	....	....	....	46	45	Perf'tly cloudless 9 p. m.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Monday, Sept. 2	1 23 a. m.	29.75	65	42	29.66	42	41	91	N. E.	2	.02		0	0	Cirrus	1-4	W.						
	7 0 a. m.	29.81	61	44	29.73	44	42	83	N. E.	7	.24		0	0	Cumulus	3-4	N. E.						
	10 23 a. m.	29.84	66	47	29.74	47	45	84	E.	12	.72	239	Stratus	4-4				10.00 a. m.	10.10 a. m.				Sprinkle.
	2 0 p. m.	29.88	71	48	29.77	48	46	85	N. E.	14	.98		Stratus	4-4									
	5 23 p. m.	29.85	70	47	29.74	47	45	84	N. E.	15	1.12		Stratus	1-2	Cirrus	1-2	S. E.						Haze.
	9 0 p. m.	29.85	73	46	29.74	46	45	92	N. E.	15	1.12				Cumulus	4-4					49	41	
Tuesday, Sept. 3	1 23 a. m.	29.77	67	46	29.67	46	45	92	N. E.	16	1.28				Cirrus	4-4							
	7 0 a. m.	29.66	62	47	29.58	47	46	92	E.	16	1.28		Stratus	4-4									
	10 23 a. m.	29.62	67	48	29.52	48	47	92	E.	17	1.44	394	Stratus	4-4									
	2 0 p. m.	29.56	66	48	29.47	48	47	92	E.	22	2.42		Stratus	4-4									
	5 23 p. m.	29.50	69	49	29.40	49	48	92	E.	22	2.42		Stratus	1-2	Cirrus	1-2		2.20 p. m.	2.25 p. m.				Sprinkle.
	9 0 p. m.	29.50	70	49	29.40	49	48	92	E.	27	3.64		Stratus	4-4							49	46	
Wednesday, Sept. 4.	1 23 a. m.	29.44	67	48	29.34	48	47	92	E.	14	.98		Stratus	4-4				5.35 p. m.	Night	.12			
	7 0 a. m.	29.42	64	48	29.33	48	47	92	E.	9	.40		Fog	4-4									
	10 23 a. m.	29.42	66	49	29.33	49	49	100	E.	12	.72	357	Fog	4-4									
	2 0 p. m.	29.40	63	49	29.31	49	48	92	E.	15	1.12		Fog	4-4									
	5 23 p. m.	29.39	66	49	29.30	49	48	92	S. E.	12	.72		Nimbus	4-4				12.10 p. m.		.13			
	9 0 p. m.	29.42	68	48	29.32	48	47	92	S. E.	9	.40		Fog	4-4							49	47	
Thursday, Sept. 5	1 23 a. m.	29.41	64	46	29.32	46	45	92	E.	13	.84		Nimbus	4-4						.03			
	7 0 a. m.	29.40	60	47	29.32	47	47	100	E.	11	.60		Fog	4-4									
	10 23 a. m.	29.47	66	48	29.38	48	48	100	E.	7	.24	249	Fog	4-4						.04			
	2 0 p. m.	29.48	63	50	29.39	50	49	92	E.	7	.24		Stratus	1-2	Cirrus	1-2							
	5 23 p. m.	29.53	65	49	29.44	49	48	92	N.	6	.18		Fog	4-4					6.05 p. m.	.05			
	9 0 p. m.	29.64	65	47	28.55	47	46	92	N.	5	.12		Stratus	4-4							51	46	
Friday, Sept. 6	1 23 a. m.	29.69	62	46	29.61	46	45	92	W.	7	.24		Stratus	4-4									
	7 0 a. m.	29.78	60	46	29.70	46	45	92	W.	14	.98		Stratus	4-4									
	10 23 a. m.	29.80	68	48	29.70	48	46	85	S. W.	15	1.12	255	Stratus	1-4	Cirrus	1-4	S. W.						
	2 0 p. m.	29.76	66	47	29.66	47	46	92	S. W.	17	1.44		Stratus	4-4									
	5 23 p. m.	29.70	63	46	29.61	46	45	92	S. W.	17	1.44		Stratus	1-2	Cirrus	1-2	S. W.	12.15 p. m.	5.10 p. m.	.08			
	9 0 p. m.	29.72	74	44	29.60	44	43	91	W.	5	.12		Stratus	1-2	Cumulus	1-2	W.				50	45	

Meteorological record for the five days ending September 11, 1872.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure pr. sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.		Maximum.	Minimum.	
Saturday, Sept. 7	1 23 a. m.	29. 73	66	43	29. 64	43	42	91	W.	6	. 18		0	0	Cumulus	1-4	W.						
	7 0 a. m.	29. 80	60	41	29. 72	41	39	82	N. W.	26	3. 38		0	0	Cumulus	3-4	W.						
	10 23 a. m.	29. 86	62	41	29. 77	41	39	82	N. W.	20	4. 20		0	0	Cumulus	4-4	N. W.	9.40 a. m.					
	2 0 p. m.	29. 92	63	41	29. 83	41	37	61	N.	27	3. 64		0	0	Cumulus	4-4	N.						
	5 23 p. m.	29. 97	65	39	29. 88	39	37	81	N.	26	3. 38	504	Stratus	1-2	Cumulus	1-2	N.		5.20 p. m.		46	39	Light snow.
	9 0 p. m.	30. 08	67	41	29. 98	41	36	56	N.	28	3. 92		0	0	Cumulus	3-4	N.						
Sunday, Sept. 8	1 23 a. m.	30. 15	61	39	30. 07	39	35	63	N. W.	17	1. 44		0	0	Cirrus	1-2							
	7 0 a. m.	30. 19	66	42	30. 09	42	38	66	N. W.	14	. 98		Stratus	1-2	Cirrus	1-2	N. W.						
	10 23 a. m.	30. 20	63	46	30. 11	46	44	84	W.	13	. 84		0	0	Cirrus	4-4	N. W.	10 a. m.		. 01			
	2 0 p. m.	30. 12	69	46	30. 02	46	45	92	S. W.	10	. 50		Stratus	4-4									
	5 23 p. m.	30. 03	65	46	29. 94	46	45	92	S. W.	11	. 60	377	Stratus	4-4						. 11	46	38	
	9 0 p. m	30. 01	65	46	29. 92	46	45	92	W.	11	. 60		Stratus	4-4									
Monday, Sept. 9	1 23 a. m.	30. 00	63	46	29. 91	46	45	92	W.	8	. 32		Stratus	4-4					Night	. 01			
	7 0 a. m.	30. 05	60	46	29. 97	46	46	100	N. W.	10	. 50		Stratus	4-4									
	10 23 a. m.	30. 13	66	46	30. 03	46	45	92	N. E.	8	. 32		Stratus	4-4				10.15 a. m.					
	2 0 p. m.	30. 20	61	45	30. 12	45	41	68	N. E.	16	1. 28		0	0	Cumulus	1-4	N. E.						
	5 23 p. m.	30. 28	66	43	30. 18	43	40	75	N.	9	. 40	276	Stratus	1-2	Cumulus	1-2	N.		12.15 p. m.	. 01	46	43	
	9 0 p. m.	30. 36	71	38	30. 25	38	36	81	N.	5	. 12		Stratus	1-4	Cumulus	3-4	N.						
Tuesday, Sept. 10	1 23 a. m.	30. 35	66	37	30. 25	37	35	80	N.	2	. 02		0	0	Cirrus	4-4							
	7 0 a. m.	30. 34	61	41	30. 26	41	38	73	Calm.	0	. 00		0	0	Cirrus	4-4							
	10 23 a. m.	30. 37	62	44	30. 28	44	41	75	S. E.	2	. 02		0	0	Cirrus	4-4	N.	8.10 a. m.					
	2 0 p. m.	30. 32	61	46	30. 24	46	43	76	S. E.	8	. 32		Stratus	1-2	Cirrus	3-4							
	5 23 p. m.	30. 29	63	43	30. 20	43	41	83	S. E.	10	. 50	106	Stratus	1-2	Cirrus	1-2					46	37	L't and misty rain.
	9 0 p. m.	30. 27	68	42	30. 17	42	41	91	S. E.	13	. 84		Stratus	4-4									
Wednesday, Sept. 11	1 23 a. m.	30. 16	63	43	30. 07	43	42	91	S.	9	. 40		Stratus	4-4						. 01			
	7 0 a. m.	29. 95	58	46	29. 88	46	45	92	S.	11	. 60		Stratus	1-2	Cirrus	1-2	S. W.						
	10 23 a. m.	29. 87	67	46	29. 77	46	45	92	S.	11	. 60		Nimbus	4-4						. 07			
	2 0 p. m.	29. 58	70	47	29. 48	47	46	92	S.	22	2. 42		Stratus	4-4									
	5 23 p. m.	29. 33	66	47	29. 24	47	47	100	S.	18	1. 62	284	Stratus	4-4						. 77	47	41	
	9 0 p. m.	29. 24	60	47	29. 14	47	46	92	S.	18	1. 62		Stratus	4-4									

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction. (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Thursday, Sept. 12.	1 23 a. m.	29.14	64	46	29.05	46	46	100	S. W.	16	1.28	....	Stratus..	4-4	....	....	......	....	....	.20	....	....	
	7 0 a. m.	28.99	61	46	28.91	46	46	100	W.	21	2.20	....	Stratus..	4-4	....	....	......	....	....	....	....	....	
	10 23 a. m.	28.98	69	47	28.88	47	46	92	W.	19	1.80	....	Stratus..	4-4	....	....	......	....	....	.13	....	...	
	2 0 p. m.	28.98	72	47	28.87	47	46	92	W.	19	1.80	....	Stratus..	4-4	....	....	......	....	....	....	....	....	
	5 23 p. m.	29.02	67	46	28.92	46	45	92	N. W.	21	2.20	412	Stratus..	4-4	....	....	......	....	....	.05	47	46	
	9 0 p. m.	29.18	70	46	29.08	46	45	92	N. W.	17	1.44	....	Stratus..	4-4	....	....	......	....	....	....	....	....	
Friday, Sept. 13....	1 23 a. m.	29.25	64	45	29.16	45	44	92	N.	16	1.28	....	Stratus..	4-4	....	....	......	....	....	.02	....	....	
	7 0 a. m.	29.36	60	44	29.28	44	43	91	N.	17	1.44	....	0	0	Cumulus	4-4	N.	....	....	....	...	....	
	10 23 a. m.	29.41	66	45	29.32	45	43	84	N.	15	1.12	....	Stratus..	4-4	....	....	......	....	9.40 a. m.	....	....	....	
	2 0 p. m.	29.44	64	45	29.35	45	42	76	N.	16	1.28	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	5 23 p. m.	29.48	63	43	29.39	43	42	91	N.	19	1.80	341	Stratus..	1-4	Cumulus	1-2	N.	5.00 p. m.	....	....	46	43	
	9 0 p. m.	29.57	73	43	29.46	43	41	83	N.	19	1.80	....	Stratus..	1-2	Cumulus	1-4	N.	....	....	....	....	....	
Saturday, Sept. 14..	1 23 a. m.	29.62	64	42	29.53	42	40	82	N.	19	1.80	....	0	0	Cumulus	4-4	N.	....	6.10 p. m.	.01	....	....	
	7 0 a. m.	29.70	56	42	29.63	42	40	82	N.	21	2.20	....	Stratus..	1-4	Cumulus	1-2	N.	....	....	....	....	....	
	10 23 a. m.	29.76	65	42	29.67	42	39	74	N.	22	2.42	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	2 0 p. m.	29.77	62	42	29.68	42	40	82	N.	25	3.12	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	5 23 p. m.	29.84	64	41	29,75	41	38	73	N.	19	1.80	466	0	0	Cumulus	4-4	N.	1.00 p. m.	1.45 p. m.	.01	43	41	
	9 0 p. m.	29.92	69	40	29,82	40	37	73	N.	13	.84	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
Sunday, Sept. 15....	1 23 a. m.	29.97	63	40	29.88	40	37	73	N.	8	.32	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	7 0 a. m.	30.10	65	42	30.01	42	39	74	N.	10	.50	....	0	0	Cumulus	4-4	N.	....	....	...	....	....	
	10 23 a. m.	30.12	67	46	30.02	46	43	76	N.	8	.32	....	Stratus..	3-4	Cirrus...	1-4	N. W.	....	....	....	....	....	
	2 0 p. m.	30.16	60	47	30.08	47	44	77	W.	3	.04	....	Stratus..	1-2	Cirrus...	1-2	N. W.	....	....	....	....	....	
	5 23 p. m.	30.25	69	43	30.15	43	41	83	N.	1	.01	197	Stratus..	4-4	....	....	......	5.10 p. m.	5.12 p. m.	....	48	40	
	9 0 p. m	30.33	68	41	30.23	41	40	91	N. E.	1	.01	....	Stratus..	3-4	Cirrus...	1-4	N. W.	....	....	....	....	....	
Monday, Sept. 16...	1 23 a. m.	30.37	64	40	30.28	40	39	91	E.	2	.02	..	Stratus..	4-4	....	....	......	....	....	....	....	....	
	7 0 a. m.	30.42	59	41	30.34	41	40	91	E.	6	.18	....	Stratus..	4-4	....	....	......	....	....	....	....	....	
	10 23 a. m.	30.50	69	45	30.39	45	43	84	E.	9	.40	....	Stratus..	3-4	Cirrus...	1-4	N. W.	8.20 a. m.	9.15 a. m.	.03	....	....	
	2 0 p. m.	30.49	68	46	30.39	46	44	84	S. E.	9	.40	....	Stratus..	1-2	Cirrus...	1-2	......	....	....	....	....	....	
	5 23 p. m.	30.49	68	45	30.39	45	43	84	S. E.	8	.32	134	Stratus..	3-4	Cirrus...	1-4	......	....	....	....	47	41	
	9 0 p. m.	30.50	66	45	30.40	45	44	92	S. E.	5	.12	....	Stratus..	1-2	Cumulus	1-2	S. W.	....	....	....	....	....	

Meteorological record for the five days ending September 21, 1872.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Tuesday, Sept. 17..	1 23 a. m.	30. 50	63	45	30. 41	45	44	92	S.	3	. 04		Stratus..	1-2	Cumulus	1-2	S. W.						
	7 0 a. m.	30. 49	59	46	30. 41	46	45	92	S.	3	. 04		Stratus..	1-2	Cumulus	1-2	S. W.						
	10 23 a. m.	30. 54	64	50	30. 45	50	47	78	S.	4	. 08		Stratus..	1-2	Cumulus	4-2	S. W.	Night...	Night...	. 01			
	2 00 p. m.	30. 54	61	51	30. 46	51	49	85	S.	6	. 18		Stratus..	3-4	Cumulus	1-4	S. W.						
	5 23 p. m.	30. 53	59	47	30. 45	47	45	84	S.	6	. 18	112	0	0	Cumulus	4-4	S. W.				52	45	
	9 0 p. m.	30. 54	63	46	30. 45	46	44	84	S.	8	. 32		0	0	Cumulus	4-4	S.						
Wednesday, Sept. 18	1 23 a. m.	30. 54	61	45	30. 46	45	44	92	S.	3	. 04		Stratus..	1-2	Cumulus	1-2	S.						
	7 0 a. m.	30. 52	61	45	30. 44	45	44	92	S.	3	. 04		Stratus..	3-4	Cumulus	1-4	S.						
	10 23 a. m.	30. 52	62	49	30. 43	49	46	78	S.	11	. 60		Stratus..	3-4	Cirrus ..	1-4	W.	Night...	6.45 a. m.	. 02			
	2 0 p. m.	30. 51	64	48	30. 42	48	44	70	S.	12	. 72		0	0	Cumulus	4-4	S.						
	5 23 p. m.	30. 46	61	44	30. 38	44	42	83	S.	18	1. 62	293	Haze	0	Cumulus	1-4	S.				49	44	
	9 0 p. m.	30. 45	65	43	30. 35	43	40	75	S.	24	2. 88		0	0	Cumulus	4-4	S.						
Thursday, Sept. 19.	1 23 a. m.	30. 34	57	43	30. 27	43	42	91	S.	21	2. 20		Stratus..	1-2	Cirrus ..	1-2							
	7 0 a. m.	30. 30	52	45	30. 24	45	44	92	S.	10	. 50		Stratus..	1-2	Cirrus ..	1-2							
	10 23 a. m.	30. 35	65	50	30. 25	50	48	85	S.	9	. 40		Stratus..	1-2	Cirrus ..	1-2							
	2 0 p. m.	30. 33	61	50	30. 25	50	48	85	S.	6	. 18		Stratus..	4-4									
	5 23 p. m.	30. 32	66	46	30. 22	46	45	92	S. E.	8	. 32	343	Stratus..	1-2	Cirrus ..	1-4	W.	11.20 a. m.	11.35 a. m.		51	43	
	9 0 p. m.	30. 33	71	47	30. 22	47	46	92	S. E.	6	. 18		Stratus..	1-2	Cirrus ..	1-2	S. W.						
Friday, Sept. 20....	1 23 a. m.	30. 28	64	45	30. 19	45	44	92	S. E.	8	. 32		Stratus..	1-2	Cirrus ..	1-2	S. W.						
	7 0 a. m.	30. 20	58	46	30. 13	46	45	92	S. E.	14	. 98		0	0	Cirrus ..	3-4	S. W.						
	10 23 a. m.	30. 17	64	49	30. 08	49	48	92	S. E.	17	1. 44		Fog	4-4									
	2 0 p. m.	30. 11	65	49	30. 02	49	48	92	S. E.	21	2. 20		Fog	4-4									
	5 23 p. m.	30. 05	60	47	29. 97	47	46	93	S. E.	16	1. 28	309	Fog	4-4				5.05 p. m.	5.20 p. m.		49	45	Sprinkle.
	9 0 p. m.	30. 04	71	48	29. 93	48	48	100	S. E.	21	2. 20		Fog	4-4									
Saturday, Sept. 21.	1 23 a. m.	29. 96	65	47	29. 87	47	46	92	S. E.	16	1. 28		Stratus..	4-4									
	7 0 a. m.	29. 85	50	47	29. 77	47	46	92	S. E.	16	1. 28		Stratus..	4-4									
	10 23 a. m.	29. 85	60	49	29. 75	49	48	92	S. E.	14	. 98		Stratus..	4-4				Night...		. 26			
	2 0 p. m.	29. 84	70	49	29. 73	49	48	92	S. E.	13	. 84		Fog	4-4									
	5 23 p. m.	29. 76	63	47	29. 67	47	46	92	S. E.	14	. 98	407	Fog	4-4						. 02			
	9 0 p. m.	29. 73	70	47	29. 63	47	46	92	S. E.	12	. 72		Stratus..	4-4							49	47	

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Sunday, Sept. 22	1 23 a. m.	29.78	64	47	29.69	47	46	92	S.	14	.98	....	0	0	Cumulus	3-4	S.	Night...	Night...	....	....	....	
	7 0 a. m.	29.80	57	47	29.73	47	46	92	S.	17	1.44	....	0	0	Cumulus	3-4	S.	....	....	....	....	....	
	10 23 a. m.	29.84	66	50	29.74	50	48	85	S.	15	1.12	....	0	0	Cumulus	1-2	S.	....	....	....	....	....	
	2 0 p. m.	29.82	65	50	29.73	50	48	85	S.	16	1.28	....	0	0	Cumulus	4-4	S.	....	....	....	....	....	
	5 23 p. m.	29.77	62	46	29.68	46	45	92	S.	22	2.42	372	0	0	Cumulus	4-4	S.	....	....	....	51	46	
	9 0 p. m.	29.75	72	47	29.64	47	45	84	S.	21	2.20	....	0	0	Cumulus	4-4	S.	....	....	....	....	....	
Monday, Sept. 23	1 23 a. m.	29.70	64	45	29.61	45	45	100	S.	22	2.42	....	0	0	Cumulus	4-4	S.	9.35 p. m.	Night...	.01	....	....	
	7 0 a. m.	29.61	57	46	29.54	46	45	92	S.W.	17	1.44	....	0	0	Cumulus	4-4	S.W.	....	....	....	....	....	
	10 23 a. m.	29.53	61	48	29.45	48	46	85	S.W.	14	.98	....	Stratus	1-2	Cumulus	1-4	S.W.	....	....	....	....	....	
	2 0 p. m.	29.49	61	49	29.41	49	47	85	S.W.	11	.60	...	Stratus	1-2	Cirrus	1-4	S.W.	....	....	....	....	....	
	5 23 p. m.	29.42	74	45	29.30	45	44	92	S.W.	4	.08	310	Stratus	1-4	Cirrus	1-4	S.W.	3.10 p. m.	3.14 p. m.	....	48	45	
	9 0 p. m	20.37	72	44	29.26	44	43	91	W.	2	.02	....	Stratus	1-2	Cirrus	1-2	S.W.	....	....	....	....	....	
Tuesday, Sept. 24	1 23 a. m.	29.40	66	44	29.31	44	43	91	W.	11	.60	....	0	0	Cumulus	4-4	W.	Night...	Night...	....	....	....	
	7 0 a. m.	29.45	60	44	29.37	44	43	91	W.	13	.84	....	Stratus	1-2	Cumulus	1-2	W.	....	....	....	....	....	
	10 23 a. m.	29.51	72	46	29.40	46	43	76	W.	13	.84	....	0	0	Cirrus	4-4	W.	....	....	.02	....	....	Squalls of rain.
	2 0 p. m.	29.52	66	46	29.43	46	44	84	W.	15	1.12	....	0	0	Cumulus	3-4	W.	....	....	....	....	....	
	5 23 p. m.	29.57	71	43	29.46	43	41	83	N. W.	15	1.12	233	0	0	Cumulus	4-4	N. W.	....	4.50 p. m.	....	46	43	
	9 0 p. m.	20.62	71	42	29.51	42	40	82	N. W.	9	.40	....	Stratus	1-4	Cumulus	3-4	N. W.	....	....	....	....	....	
Wednesday, Sept. 25	1 23 a. m.	29.68	66	40	29.59	40	38	82	N. W.	12	.72	...	0	0	Cumulus	3-4	N. W.	Night...	....	....	....	....	
	7 0 a. m.	29.80	57	40	29.73	40	37	73	N. W.	13	.84	....	0	0	Cumulus	4-4	N. W.	....	....	....	....	....	
	10 23 a. m.	29.84	60	40	29.76	40	37	73	N. W.	22	2.42	....	0	0	Cumulus	3-4	N. W.	0	0	.08	....	....	
	2 0 p. m.	29.88	63	41	29.79	41	38	73	N. W.	15	1.12	....	0	0	Cirrus	3-4	W.	....	....	....	....	....	Showers of hail and snow.
	5 23 p. m.	29.88	61	39	29.80	39	36	72	N. W.	10	.50	304	0	0	Cirrus	4-4	W.	....	....	.02	43	38	
	9 0 p. m.	29.62	71	42	29.51	42	40	82	N. W.	9	.40	....	Stratus	1-4	Cumulus	3-4	N. W.	....	....	....	....	....	Light snow.
Thursday, Sept. 26	1 23 a. m.	29.86	64	36	29.77	36	35	90	N.	5	.12	....	0	0	Cirrus	4-4	W.	....	....	.01	....	....	Do.
	7 0 a. m.	29.82	56	35	29.75	35	34	89	N. E.	6	.18	....	Nimbus	1-2	Cumulus	1-2	N. E.	....	....	....	....	....	
	10 23 a. m.	29.84	70	36	29.73	36	34	80	N. E.	9	.40	....	Nimbus	4-4	....			....	....	.06	....	....	Melted snow.
	2 0 p. m.	29.81	70	37	29.70	37	34	71	N. E.	8	.32	....	Nimbus	3-4	Cumulus	1-4	N. E.	....	....	....	....	....	
	5 23 p. m.	29.80	68	37	29.70	37	34	71	N. E.	13	.84	191	Stratus	1-4	Cumulus	1-4	N. E.	4.20 p. m.	....	.01	37	35	Do.
	9 0 p. m.	29.84	72	36	29.73	36	34	80	N.	14	.98	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	

Meteorological record for the four days ending September 30, 1872.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.		Maximum.	Minimum.	
Friday, Sept. 27	1 23 a. m.	29. 82	62	34	29. 73	34	32	79	N.	11	.60		Stratus	1-4	Cumulus	3-4	N.						
	7 0 a. m.	29. 84	55	33	29. 77	33	32	89	N.	11	.60		0	0	Cumulus	3-4	N.						
	10 23 a. m.	29. 88	69	37	29. 78	37	35	80	N.	16	1. 28		Stratus	1-4	Cumulus	1-2	N.	Night		.02			Melted snow.
	2 0 p. m.	29. 87	70	36	29. 76	36	35	90	N.	12	.72		0	0	Cumulus	4-4	N.						
	5 23 p. m.	29. 86	70	38	29. 75	38	35	71	N.	10	.50	351	0	0	Cumulus	4-4	N.		1.35 a. m.	.01	39	33	Do.
	9 0 p. m.	29. 87	70	37	29. 76	37	34	71	N.	7	.24		0	0	Cumulus	4-4	N.						
Saturday, Sept. 28	1 23 a. m.	29. 79	64	40	29. 70	40	38	82	W.	4	.08		0	0	Cumulus	4-4	W.	Night		.02			
	7 0 a. m.	29. 87	70	37	29. 76	37	34	71	N.	7	.24		0	0	Cumulus	4-4	W.						
	10 23 a. m.	29. 74	67	44	29. 64	44	41	75	S.	9	.40		Stratus	1-4	Cirrus	1-2	W.		Night	.05			
	2 0 p. m.	29. 73	64	48	29. 64	48	44	70	S.	5	.12		Stratus	1-2	Cirrus	1-2	W.						
	5 23 p. m.	29. 73	63	43	29. 64	43	41	83	E.	1	.01	148	Stratus	3-4	Cumulus	1-4	N.				48	37	
	9 0 p. m.	29. 82	71	39	29. 71	39	38	90	N.	10	.50		Stratus	1-2	Cirrus	1-2	W.						
Sunday, Sept. 29	1 23 a. m.	29. 85	65	38	29. 76	38	37	90	N.	11	.60		0	0	Cumulus	4-4	N.	7.10 p. m.	Night	.02			
	7 0 a. m.	29. 91	58	39	29. 84	39	37	81	N.	6	.18		0	0	Cumulus	1-2	N.						
	10 23 a. m.	29. 96	68	41	29. 86	41	39	82	N.	10	.50		0	0	Cumulus	1-2	N.	10.05 a. m.	10.08 a. m.				Light squall of rain.
	2 0 p. m.	29. 98	64	41	29. 89	41	38	73	N.	13	.84		0	0	Cumulus	3-4	N.						
	5 23 p. m.	29. 98	65	40	29. 89	40	38	82	N.	9	.40	240	0	0	Cumulus	4-4	N.				43	35	
	9 0 p. m.	30. 03	74	39	29. 91	39	38	90	N.	6	.18		0	0	Cumulus	1-2	N.						
Monday, Sept. 30	1 23 a. m.	29. 94	65	40	29. 85	40	39	91	S. W.	13	.84		0	0	Cumulus	4-4	S. W.	9.20 p. m.		.02			
	7 0 a. m.	29. 81	59	42	29. 73	42	41	91	S. W.	16	1. 28		Stratus	4-4									
	10 23 a. m.	29. 77	71	43	29. 66	43	41	83	S. W.	18	1. 62		Stratus	4-4						.02			
	2 0 p. m.	29. 70	72	45	29. 59	45	43	84	W.	21	2. 20		0	0	Cumulus	4-4	W.						
	5 23 p. m.	29. 75	71	44	29. 64	44	42	83	N. W.	19	1. 80	329	Stratus	4-4						.03	45	39	
	9 0 p. m.	29. 90	73	40	29. 79	40	39	91	N.	16	1. 28		0	0	Cumulus	1-2	N.						

Meteorological record for the five days ending October 5, 1872.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from.)	Commen'd.	Ended.		Maximum.	Minimum.	
Tuesday, Oct. 1	1 23 a. m.	29. 97	65	36	29. 88	36	35	90	N.	12	. 72	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	Light rain-squalls.
	7 0 a. m.	30. 00	63	36	29. 91	36	35	90	N.	9	. 40	....	0	0	Cumulus	1-2	N.	....	....	....	....	....	
	10 23 a. m.	30. 01	66	40	29. 91	40	37	73	N. E.	11	. 60	....	0	0	Cumulus	1-2	N. E.	....	....	. 01	....	....	Do.
	2 0 p. m.	30. 04	71	41	29. 93	41	38	73	N. E.	10	. 50	....	0	0	Cumulus	4-4	N. E.	....	....	....	....	....	
	5 23 p. m.	30. 03	67	39	29. 92	39	36	72	N. E.	12	. 72	296	0	0	Cumulus	4-4	N. E.	....	....	....	....	....	
	9 0 p. m.	30. 02	72	39	29. 92	39	36	72	N. E.	14	. 98	....	0	0	Cumulus	3-4	N. E.	....	....	...	44	33	Aurora.
Wednesday, Oct. 2	1 23 a. m.	29. 99	68	39	29. 89	39	36	72	N. E.	17	1. 44	....	0	0	Cumulus	4-4	N. E.	D'g night	D'g night	. 01	....	....	
	7 0 a. m.	29. 89	57	40	29. 81	40	38	82	N. E.	21	2. 20	....	0	0	Cumulus	4-4	N. E.	....	....	....	....	...	
	10 23 a. m.	29. 91	68	41	29. 81	41	37	65	N. E.	20	2. 00	....	0	0	Cumulus	4-4	N. E.	....	....	....	....	....	
	2 0 p. m.	29. 88	68	42	29. 78	42	40	82	N. E.	23	2. 64	....	0	0	Cumulus	4-4	N. E.	....	....	....	....	....	
	5 23 p. m.	29. 89	71	40	29. 78	40	38	82	N. E.	20	2. 00	426	Stratus .	3-4	Cirrus...	1-4	W.	11.20 a.m.	....	. 01	....	....	Misty rain-dashes at intervals.
	9 0 p. m.	29. 90	68	40	29. 80	40	39	91	N. E.	19	1. 80	....	0	0	Cumulus	4-4	N. E.	....	....	....	42	38	
Thursday, Oct. 3	1 23 a. m.	29. 93	65	38	29. 84	38	36	81	N. E.	21	2. 20	....	0	0	Cumulus	4-4	N. E.	....	1.30 a.m.	. 00	....	....	
	7 0 a. m.	29. 98	58	38	29. 91	38	35	71	N. E.	22	2. 42	....	0	0	Cumulus	4-4	N. E.	....	....	....	....	....	
	10 23 a. m.	30. 04	67	42	29. 94	42	38	66	N. E.	20	2. 00	....	0	0	Cumulus	3-4	N. E.	....	....	....	....	....	
	2 0 p. m.	30. 05	67	41	29. 95	41	38	73	N. E.	17	1. 44	....	0	0	Cirrus...	1-4	W.	....	....	....	....	....	
	5 23 p. m.	30. 09	65	39	30. 00	39	36	72	N. E.	14	. 98	429	0	0	Cirrus...	3-4	W.	....	....	....	....	....	
	9 0 p. m	30. 15	70	34	30. 04	34	32	79	N. E.	4	. 08	....	0	0	0	0	0	....	....	....	42	37	Aurora at 10.30 p.m.
Friday, Oct. 4	1 23 a. m.	30. 13	62	33	30. 04	33	32	89	N. E.	2	. 02	....	0	0	Cumulus	1-2	N. E.	....	....	....	....	....	
	7 0 a. m.	30. 13	64	37	30. 04	37	35	80	N. E.	7	. 24	....	0	0	Cumulus	3-4	N. E.	....	....	....	....	....	
	10 23 a. m.	30. 14	70	42	30. 03	42	38	66	E.	8	. 32	....	0	0	Cumulus	1-2	N. E.	....	....	....	....	....	
	2 0 p. m.	30. 09	69	42	29. 99	42	39	74	E.	11	. 60	...	0	0	Cumulus	4-4	E.	....	....	....	...	....	
	5 23 p. m.	30. 02	63	39	29. 93	39	36	72	S. E.	18	1. 62	193	0	0	Cumulus	4-4	S. E.	....	....	....	....	...	
	9 0 p. m.	29. 97	67	41	29. 87	41	38	73	S. E.	21	2. 20	....	0	0	Cumulus	4-4	S. E.	....	....	....	42	32	
Saturday, Oct. 5	1 23 a. m.	29. 88	62	42	29. 79	42	39	74	S. E.	31	4. 80	....	0	0	....	4-4	......	....	....	....	....	....	
	7 0 a. m.	29. 76	55	43	29. 69	43	41	83	S. E.	26	3. 38	....	Stratus .	1-2	Cirrus...	1-2	S.	....	....	....	....	....	
	10 23 a. m.	29. 75	70	44	29. 65	44	41	75	S. E.	24	2. 88	....	Stratus .	3-4	Cirrus...	1-4	S.	....	....	....	....	....	
	2 0 p. m.	29. 67	62	44	29. 59	44	42	83	S. E.	28	3. 92	....	0	0	Cumulus	4-4	S. E.	....	....	....	....	....	
	5 23 p. m.	29. 61	60	43	29. 53	43	41	83	S. E.	25	3. 12	570	Stratus .	1-2	Cirrus...	1-2	S.	....	....	. 00	....	....	
	9 0 p. m.	29. 58	64	43	29. 49	43	41	83	S. E.	29	4. 20	....	Stratus .	4-4	....	....	......	4.10 p.m.	4.14 p.m.	....	45	39	

Meteorological record for the five days ending October 10, 1872.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'en'd.	Ended.		Maximum.	Minimum.	
Sunday, Oct. 6	1 23 a. m.	29.54	61	43	29.46	43	41	83	S. E.	32	5.12		Stratus	4-4									
	7 0 a. m.	29.52	65	44	29.43	44	42	83	S. E.	22	2.42		Stratus	1-2	Cirrus	1-2							
	10 23 a. m.	29.52	65	44	29.43	44	42	83	S. E.	16	1.28		Stratus	1-2	Cirrus	1-2		7.10 a. m.		.05			
	2 0 p. m.	29.50	62	43	29.42	43	41	83	S. E.	15	1.12		Stratus	4-4									
	5 23 p. m.	29.51	66	41	29.42	41	40	91	E.	4	.08	550	Stratus	4-4						.13			
	9 0 p. m.	29.50	67	41	29.40	41	40	91	E.	6	.18		Stratus	4-4							43	41	
Monday, Oct. 7	1 23 a. m.	29.45	62	42	29.37	42	41	91	N. E.	9	.40		Stratus	4-4						.14			
	7 0 a. m.	29.28	56	42	29.21	42	41	91	N. E.	18	1.62		Stratus	4-4									
	10 23 a. m.	29.28	62	44	29.20	44	43	91	N. E.	19	1.80		Stratus	4-4						.04			
	2 0 p. m.	29.25	65	45	29.16	45	44	92	N. E.	22	2.42		Nimbus	4-4									
	5 23 p. m.	29.18	65	43	29.09	43	42	91	N. E.	16	1.28	326	Nimbus	1-4	Cumulus	3-4	N. E.			.03			
	9 0 p. m.	29.09	68	42	28.99	42	41	91	N. E.	9	.40		0	0	Cumulus	1-2	N. E.				45	41	
Tuesday, Oct. 8	1 23 a. m.	28.98	62	42	28.90	42	41	91	E.	18	1.62		Stratus	4-4						.03			
	7 0 a. m.	28.80	55	43	28.74	43	41	83	E.	23	2.64		Stratus	1-2	Cumulus	1-2	E.						
	10 23 a. m.	28.74	62	42	28.66	42	41	91	E.	29	4.20		Stratus	4-4						.06			
	2 0 p. m.	28.64	67	42	28.55	42	41	91	E.	29	4.20		Stratus	4-4									
	5 23 p. m.	28.61	69	42	28.51	42	41	91	E.	26	3.38	477	Stratus	4-4						.05			
	9 0 p. m.	28.63	70	42	28.53	42	41	91	E.	27	3.64		Stratus	4-4							43	42	
Wednesday, Oct. 9	1 23 a. m.	28.65	63	42	28.57	42	41	91	E.	20	2.00		Stratus	4-4						.01			
	7 0 a. m.	28.71	57	41	28.64	41	40	91	N. E.	9	.40		Stratus	4-4									
	10 23 a. m.	28.75	62	41	28.67	41	40	91	N. E.	12	.72		Stratus	4-4						.02			
	2 0 p. m.	28.81	66	42	28.72	42	41	91	N. E.	18	1.62		Stratus	1-2	Cirrus	1-2	W.						
	5 23 p. m.	28.87	65	40	28.78	40	38	82	N. E.	17	1.44	455	0	0	Cumulus	4-4	N. E.						
	9 0 p. m.	28.96	76	40	28.84	40	38	82	N.	6	.18		Stratus	1-2	Cumulus	1-2	N.				43	40	
Thursday, Oct. 10	1 23 a. m.	28.97	69	39	28.87	39	38	90	N.	11	.60		0	0	Cumulus	4-4	N.			.01			
	7 0 a. m.	29.03	59	39	28.96	39	37	81	N.	12	.72		Stratus	1-4	Cumulus	1-2	N.						
	10 23 a. m.	29.07	62	40	28.99	40	39	91	N. W.	12	.72		Nimbus	1-4	Cumulus	3-4	N. W.			.01			
	2 0 p. m.	29.09	67	43	28.99	43	42	91	N. W.	9	.40		0	0	Cumulus	3-4	N. W.						
	5 23 p. m.	29.12	70	41	29.02	41	40	91	W.	9	.40	227	0	0	Cumulus	3-4	W.		4.20 p. m.	.01			
	9 0 p. m.	29.18	73	39	29.07	39	38	90	W.	6	.18		0	0	Cumulus	4-4	W.				44	38	

Meteorological record for the five days ending October 15, 1872.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Friday, Oct. 11	1 23 a. m.	29.21	67	39	29.11	39	38	90	N.	8	.32	....	Nimbus	1-4	Cumulus	3-4	N.	D'g night	D'g night	.02	....	....	Dashes of misty rain.
	7 0 a. m.	29.29	61	42	29.21	42	41	91	N.	4	.08	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	10 23 a. m.	29.34	67	42	29.24	42	41	91	N.	9	.40	....	0	0	Cumulus	3-4	N.	....	....	....	....	....	Do.
	2 0 p. m.	29.35	67	41	29.25	41	40	91	N. W.	10	.50	....	0	0	Cumulus	4-4	N. W.	....	....	....	....	....	
	5 23 p. m.	29.36	70	40	29.26	40	39	91	N. W.	9	.40	149	Nimbus	1-4	Cumulus	3-4	N. W.	....	....	....	....	....	
	9 0 p. m.	29.37	71	38	29.26	38	37	90	N. W.	4	.08	....	Stratus	1-4	Cumulus	3-4	N. W.	....	....	....	42	39	
Saturday, Oct. 12	1 23 a. m.	29.34	65	37	29.25	37	36	90	N. E.	1	.01	....	Stratus	1-4	Cirrus	3-4	S. E.	....	....	....	....	....	
	7 0 a. m.	29.29	62	39	29.21	39	38	90	S. E.	4	.08	...	Stratus	4-4	....	...	....	....	....	....	....	....	
	10 23 a. m.	29.26	66	41	29.17	41	40	91	E.	9	.40	....	Nimbus	4-4	....	....	....	10.05 a. m.	10.20 a. m.	.01	...	....	Fine misty rain.
	2 0 p. m.	29.21	67	44	29.11	44	42	83	E.	9	.40	....	Stratus	1-4	Cirrus	1-2	S. E.	....	....	....	....	....	
	5 23 p. m.	29.15	73	41	29.04	41	39	82	E.	14	.98	139	Stratus	1-4	Cirrus	3-4	S. E.	....	....	....	....	....	
	9 0 p. m.	29.05	72	40	28.94	40	38	82	N. E.	17	1.44	....	0	0	Cirrus	3-4	E.	....	....	....	45	37	Cir.-Cumulus.
Sunday, Oct. 13	1 23 a. m.	28.97	64	40	28.88	40	39	91	N.	32	5.12	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	7 0 a. m.	28.86	56	40	28.79	40	40	100	N.	36	6.48	....	Stratus	4-4	....	....	....	....	....	....	....	....	
	10 23 a. m.	28.92	65	41	28.83	41	40	91	N.	35	6.12	....	Stratus	4-4	....	....	....	5.40 a. m.	....	.01	....	....	
	2 0 p. m.	28.96	63	41	28.88	41	40	91	N.	28	3.92	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	5 23 p. m.	29.08	68	40	28.98	40	39	91	N.	29	4.20	661	0	0	Cumulus	4-4	N.	....	....	.02	....	....	
	9 0 p. m.	29.18	69	40	29.08	40	39	91	N.	28	3.92	....	Nimbus	4-4	....	....	....	....	....	....	42	40	
Monday, Oct. 14	1 23 a. m.	29.29	62	36	29.20	36	35	90	N.	26	3.38	....	Nimbus	1-2	Cumulus	1-2	N.	....	....	.18	....	....	
	7 0 a. m.	29.43	56	34	29.30	34	33	89	N. W.	18	1.62	....	Stratus	1-4	Cumulus	1-2	N. W.	....	....	....	....	....	Squalls of hail and snow.
	10 23 a. m.	29.54	71	36	29.43	36	35	90	N. W.	16	1.28	....	Stratus	1-4	Cumulus	1-2	N. W.	....	....	.02	....	....	Melted snow.
	2 0 p. m.	29.59	71	36	29.48	36	34	80	N.	18	1.62	....	Nimbus	1-4	Cumulus	1-4	N.	....	....	....	....	....	Squalls of hail and snow.
	5 23 p. m.	29.61	66	32	29.51	32	31	89	N.	14	.98	495	Nimbus	3-4	....	....	....	....	....	.01	....	....	Melted snow.
	9 0 p. m.	29.71	72	30	29.60	30	28	78	N.	4	.08	....	Stratus	1-4	Cumulus	1-2	N.	....	....	....	40	32	Aurora.
Tuesday, Oct. 15	1 23 a. m.	29.74	61	29	29.66	29	28	88	N.	12	.72	....	Nimbus	3-4	Cumulus	1-4	N.	....	....	.02	....	....	Melted snow.
	7 0 a. m.	29.80	56	28	29.73	28	27	88	N.	7	.24	....	Stratus	1-4	Cumulus	1-2	N.	....	....	....	....	....	
	10 23 a. m.	29.84	62	31	29.75	31	29	78	N.	14	.98	....	0	0	Cumulus	3-4	N.	....	....	.01	....	....	
	2 0 p. m.	29.90	66	31	29.80	31	28	68	N.	20	2.00	....	Nimbus	3-4	Cumulus	1-4	N.	....	....	....	....	....	
	5 23 p. m.	29.92	68	28	29.82	28	26	76	N.	15	1.12	284	Nimbus	1-4	Cumulus	1-2	N.	....	....	.03	....	....	
	9 0 p. m.	30.00	69	27	29.90	27	26	88	N.	26	3.38	....	Nimbus	4-4	....	....	....	....	....	....	31	28	Furious snow.

Meteorological record for the five days ending October 20, 1872.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.		Maximum.	Minimum.	
Wednesday, Oct. 16.	1 23 a. m.	30.02	63	27	29.93	27	25	76	N.	15	1.12	....	Nimbus.	1-4	Cumulus	1-4	N.	....	....	.07	....	....	Melted snow.
	7 0 a. m.	30.06	62	27	29.97	27	23	76	N. W.	12	.72	....	Nimbus.	1-4	Cumulus	1-4	N. W.	....	....	....	....	....	Squalls of hail and snow.
	10 23 a. m.	30.06	64	32	29.97	32	30	79	N. W.	11	.60	....	0	0	Cumulus	1-4	N. W.	....	10.05 a. m.	.01	....	....	
	2 0 p. m.	30.04	71	35	29.93	35	34	89	W.	7	.24	....	Stratus	1-4	Cirrus	3-4	W.	....	....	....	....	....	
	5 23 p. m.	29.92	69	34	29.82	34	33	89	S.	15	1.12	314	Nimbus.	4-4	....	....	......	5.00 p. m.	....	.01	35	27	
	9 0 p. m.	29.75	68	37	29.65	37	36	90	S.	23	2.64	....	Stratus	4-4	....	....	......	....	....	....	....	....	
Thursday, Oct. 17...	1 23 a. m.	29.51	60	40	29.43	40	39	91	S. W.	17	1.44	....	Stratus	4-4	....	....	......	....	....	.26	....	....	
	7 0 a. m	29.09	64	42	29.00	42	41	91	S. W.	19	1.60	....	Stratus	4-4	....	....	......	....	....	....	....	....	
	10 23 a. m.	29.06	60	43	28.98	43	41	83	W.	18	1.62	....	Stratus	4-4	....	....	......	....	....	.16	....	....	
	2 0 p. m.	29.20	64	42	29.11	42	41	91	W.	31	4.80	....	Stratus	4-4	....	....	......	....	....	....	....	....	
	5 23 p. m	29.37	71	40	29.26	40	39	91	W.	42	8.82	531	Stratus	4-4	....	....	......	....	....	.17	43	34	
	9 0 p. m.	29.51	72	40	29.40	40	39	91	W.	36	6.48	....	Stratus	1-2	Cirrus	1-2	W.	....	....	....	....	....	
Friday, Oct. 18......	1 23 a. m.	29.57	63	39	29.48	39	38	90	S. W.	19	1.80	....	Stratus	1-2	Cumulus	1-4	S. W.	....	6.20 p. m.	.03	....	....	
	7 0 a. m.	29.66	65	39	29.57	39	37	81	S. W.	18	1.62	....	0	0	Cumulus	1-4	S. W.	....	....	....	....	....	
	10 23 a. m.	29.64	65	41	29.55	41	39	62	S. W.	12	.72	....	0	0	Cirrus	3-4	W.	....	....	....	....	....	
	2 0 p. m.	29.62	65	40	29.53	40	39	91	S.	13	.84	....	Nimbus.	4-4	....	....	......	....	....	....	....	....	
	5 23 p. m.	29.52	70	42	29.42	42	41	91	S.	13	.84	403	Stratus	4-4	....	....	......	11.35 a. m.	....	.13	43	39	
	9 0 p. m.	29.45	67	42	29.35	42	42	100	S.	16	1.28	....	Stratus	4-4	....	....	......	....	....	....	....	....	
Saturday, Oct. 19...	1 23 a. m.	29.36	62	41	29.28	41	40	91	S.	7	.24	....	Stratus	4-4	....	....	......	....	....	.21	....	....	
	7 0 a. m.	29.22	62	41	29.14	41	41	100	S.	1	.01	....	Stratus	4-4	....	....	......	....	....	....	....	....	
	10 23 a. m.	29.18	67	41	29,08	41	41	100	N.	8	.32	....	Stratus	4-4	....	....	......	....	....	.31	....	....	
	2 0 p. m.	29.17	63	36	29.09	36	35	90	N.	32	5.12	....	Stratus	4-4	....	....	......	....	....	....	....	....	
	5 23 p. m.	29.33	66	31	29.24	31	30	89	N.	41	8.40	360	Stratus	4-4	....	....	......	....	5.15 p. m.	.06	42	31	Melted snow.
	9 0 p. m.	29.49	67	29	29.39	29	27	77	N.	28	3.92	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
Sunday, Oct. 20......	1 23 a. m.	29.56	61	28	29.48	28	26	76	N.	24	2.88	....	0	0	Cumulus	4-4	N.	Night.	....	.01	....	....	Squalls of hail and snow.
	7 0 a. m.	29.72	59	27	29.64	27	25	76	N.	21	2.20	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	Do.
	10 23 a. m.	29.78	57	29	29.71	29	26	66	N.	19	1.80	....	Nimbus.	1-4	Cumulus	3-4	N.	....	....	.01	....	....	Do.
	2 0 p. m.	29.87	66	29	29.77	29	27	77	N. W.	19	1.80	....	0	0	Cumulus	1-2	N. W.	....	....	....	....	....	Do.
	5 23 p. m.	29.90	64	29	29.81	29	27	77	N. W.	17	1.44	543	0	0	Cumulus	3-4	N. W.	....	....	.02	31	27	Do.
	9 0 p. m.	29.91	70	32	29.80	32	31	89	N. W.	15	1.12	....	0	0	Cumulus	3-4	N. W.	....	....	....	....	....	Do.

Meteorological record for the five days ending October 25, 1872.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Monday, October 21	1 23 a. m.	29.88	62	33	29.79	33	32	89	W.	14	.98	....	Nimbus.	4-4	....	....	......	....	....	.01	....	....	Squalls of hail and snow.
	7 0 a. m.	29.85	66	35	29.75	35	34	89	W.	20	2.00	...	Nimbus.	1-4	Cumulus	1-2	W.	....	....	....	....	....	Do.
	10 23 a. m.	29.82	63	35	29.73	35	34	89	W.	21	2.20	....	Stratus.	1-4	Cumulus	1 2	W.	....	....	....	....	....	Do.
	2 0 p. m.	29.77	64	36	29.68	36	35	90	W.	21	2.20	...	Nimbus.	1-2	Cumulus	1-2	W.	....	....	....	....	....	Do.
	5 23 p. m.	29.73	65	35	29.64	35	32	69	W.	17	1.44	417	0	0	Cumulus	1-2	W.	....	2.25 p. m.	.03	37	29	
	9 0 p. m.	29.65	65	36	29.56	36	33	70	W.	16	1.28	....	0	0	Cumulus	1 2	W.	....	....	....	....	....	
Tuesday, October 22	1 23 a. m.	29.55	59	34	29.47	34	32	79	W.	16	1.28	..	0	0	Cumulus	4-4	W.	....	....	....	....	....	
	7 0 a. m.	29.41	54	27	29.35	27	25	76	N.	31	4.80	...	0	0	Cumulus	3-4	N.	....	....	....	....	....	
	10 23 a. m.	29.43	62	29	29.35	29	27	77	N.	22	2.42	....	Nimbus	1-4	Cumulus	1-4	N.	Night...	....	.02	....	....	Do.
	2 0 p. m.	29.42	63	31	29.33	31	28	68	N.	31	4.80	....	0	0	Cumulus	3-4	N.	....	....	....	....	....	
	5 23 p. m.	29.43	62	29	29.35	29	27	77	N.	19	1.80	477	0	0	Cumulus	4-4	N.	....	1.35 p. m.	.00	36	27	
	9 0 p. m.	29.51	69	31	29.41	31	29	78	N.	13	.84	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
Wednesday, Oct. 23	1 23 a. m.	29.56	59	32	29.48	32	31	89	N. W.	26	3.38	...	Stratus	1-4	Cumulus	3-4	N. W.	10.40 p. m.	....	.02	....	....	Do.
	7 0 a. m.	29.65	61	32	29.57	32	31	89	N. W.	24	2.88	...	Stratus.	1-4	Cumulus	3-4	N. W.	....	....	....	....	....	Do.
	10 23 a. m.	29.70	61	33	29.62	33	31	80	N. W.	26	3.38	...	Nimbus	1-2	Cumulus	1-2	N. W.	....	....	.04	....	....	Furious squalls hail and snow.
	2 0 p. m.	29.72	60	33	29.64	33	32	89	N. W.	24	2.88	....	Nimbus	4-4	....	....	......	....	....	....	....	....	
	5 23 p. m.	29.77	62	32	29.68	32	31	89	N. W.	28	3.92	540	Nimbus	4-4	....	....	......	....	....	.14	34	29	
	9 0 p. m.	29.87	67	33	29.77	33	32	89	N.	23	2.64	...	0	0	Cumulus	4-4	N.	....	....	....	....	....	
Thursday, Oct. 24..	1 23 a. m.	29.90	60	34	29.82	34	32	79	N. W.	18	1.62	...	Stratus	1-2	Cumulus	1-2	N. W.	....	6.10 p. m.	.01	....	....	
	7 0 a. m.	29.96	63	34	29.87	34	32	79	N. W.	6	.18	....	Stratus.	3-4	Cirrus ..	1-4	W.	....	....	....	....	....	
	10 23 a. m.	30.03	69	36	29.93	36	34	80	0	0	0	....	Stratus.	1-2	Cirrus ..	1-2	W.	10.10 a. m.	....	.00	...	....	
	2 0 p. m	30.02	62	36	29.93	36	35	90	N. W.	1	.01	...	0	0	0	0	0	....	....	...	....	....	
	5 23 p. m.	30.06	68	38	29.96	38	36	81	N. W.	4	.08	300	0	0	0	0	0	....	12.25 p. m.	.01	....	....	Melted snow.
	9 0 p. m.	30.06	68	39	29.96	39	38	90	W.	3	.04	....	0	0	Cirrus ..	4-4	......	....	....	....	....	....	
Friday, October 25.	1 23 a. m.	30.01	59	38	29.93	38	37	90	S.	7	.24	....	Stratus	3-4	Cirrus	1-4	W.	Night...	....	.01	....	....	
	7 0 a. m.	29.90	53	38	29.84	38	37	90	S.	9	.40	....	Stratus.	1-2	Cumulus	1-2	S.	....	....	....	....	....	
	10 23 a. m.	29.90	62	41	29.81	41	39	82	S.	11	.60	....	Stratus	1-2	Cirrus ..	1-2	W.	....	....	.01	....	....	
	2 0 p. m.	29.86	66	39	29.76	39	38	90	W.	14	.98	....	Stratus	4-4	....	....	......	....	....	....	....	....	
	5 23 p. m.	29.88	65	37	29.79	37	36	90	W.	7	.24	203	0	0	Cumulus	1-4	W.	....	4.10 p. m.	.02	42	37	Rain & snow-flakes.
	9 0 p. m.	29.90	66	36	29.80	36	35	90	S. W.	1	.01	....	0	0	0	0	0	....	....	....	....	...	

Meteorological record for the five days ending October 30, 1872.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction. (moving from—)	Commenc'd.	Ended.		Maximum.	Minimum.	
Saturday, Oct. 26...	1 23 a. m.	29.88	59	35	29.80	35	34	89	S. W.	4	.08	....	0	0	Cumulus	1-4	S. W.	....	....	....	....	....	
	7 0 a. m.	29.88	61	36	29.80	36	34	80	S. W.	10	.50	....	0	0	Cumulus	1-4	S. W.	....	....	....	....	....	
	10 23 a. m.	29.89	60	38	29.81	38	36	81	S. W.	12	.72	....	0	0	0	0	0	....	....	....	....	....	
	2 0 p. m.	29.91	63	38	29.82	38	36	81	S. W.	11	.60	....	0	0	0	0	0	....	....	....	....	....	
	5 23 p. m.	29.91	68	36	29.81	36	34	80	W.	2	.02	187	Stratus	1-4	Cirrus	1-4	W.	....	....	....	38	34	
	9 0 p. m.	29.93	70	31	29.84	31	30	89	0	0	0	....	Stratus	1-4	Cirrus	1-4	W.	....	....	....	....	....	
Sunday, Oct. 27....	1 23 a. m.	29.92	60	32	29.84	32	31	89	S. W.	1	.01	...	Stratus	1-4	Cumulus	1-2	N.	....	....	....	....	....	
	7 0 a. m.	29.91	54	33	29.85	33	32	89	S. W.	4	.08	....	Nimbus	4-4	....	....	......	....	....	....	....	....	
	10 23 a. m	29.95	68	33	29.85	33	32	89	N.	1	.01	....	Nimbus	4 4	....	....	......	Night	10.30 a. m.	.15	....	....	Melted snow.
	2 0 p. m.	29.92	59	35	29.84	35	34	89	N.	1	.01	...	0	0	Cumulus	1-4	N.	....	....	....	....	....	
	5 23 p. m.	29.92	61	31	29.84	31	30	89	N.	2	.02	32	0	0	Cumulus	1-4	N.	....	....	....	36	31	
	9 0 p. m.	29.98	72	31	29.87	31	30	89	N.	4	.08	....	0	0	0	0	0	....	....	....	....	....	
Monday, Oct. 28....	1 23 a. m.	29.90	61	31	29.82	31	30	89	N.	22	2.42	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	7 0 a. m.	29.82	61	31	29.74	31	29	78	N.	8	.32	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	10 23 a. m.	29.79	62	32	29.70	32	31	89	N.	16	1.28	....	0	0	Cumulus	4-4	N.	8.00 a. m.	....	.00	....	....	Very light showers of hail.
	2 0 p. m.	29.76	60	32	29.68	32	30	79	N.	18	1.62	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	5 23 p. m.	29.77	68	30	29.67	30	27	67	N.	29	4.20	368	0	0	Cumulus	4-4	N.	....	4.30 p. m.	.00	32	30	
	9 0 p. m.	29.75	67	29	29.65	29	27	77	N.	26	3.38	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
Tuesday, Oct. 29 ...	1 23 a. m.	29.72	57	27	29.65	27	25	76	N.	25	3.12	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	7 0 a. m.	29.70	49	23	29.65	25	23	74	N.	25	3.12	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	10 23 a. m.	29.72	55	25	29.65	25	23	74	N.	24	2.88	....	Nimbus	1-4	Cumulus	3-4	N.	Night	....	.01	....	....	Squalls of hail and snow.
	2 0 p. m.	29.72	64	25	29.63	25	23	74	N.	25	3.12	....	Nimbus	1-4	Cumulus	3-4	N.	....	....	....	....	....	Do.
	5 23 p. m.	29.73	60	24	29.65	24	22	73	N.	25	3.12	600	0	0	Cumulus	4 4	N.	....	....	.01	30	24	Do.
	9 0 p. m.	29.76	64	22	20.67	22	20	72	N.	26	3.38	....	Nimbus	4-4	....	....	......	....	....	....	....	....	Do.
Wednesday, Oct. 30.	1 23 a. m.	29.74	56	22	29.67	22	20	72	N.	27	3.64	....	0	0	Cumulus	4-4	N.	....	....	.04	....	....	Do.
	7 0 a. m.	29.74	55	24	29.67	24	22	73	N.	23	2.64	....	Nimbus	1-4	Cumulus	3-4	N.	....	....	....	....	....	Do.
	10 23 a. m.	29.78	62	23	29.69	23	22	86	N.	25	3.12	....	Nimbus	4-4	....	....	......	....	....	.04	....	....	Do.
	2 0 p. m.	29.82	62	24	29.73	24	23	86	N. W.	29	4.20	....	Stratus	1-4	Cumulus	1-2	W.	....	....	....	....	....	Do.
	5 23 p. m.	29.85	58	25	29.78	25	23	74	N. W.	27	3.64	581	Nimbus	1-4	Cumulus	3-4	N. W.	....	....	.06	25	22	Furious squalls of hail and snow.
	9 0 p. m.	29.91	69	24	29.81	24	22	73	N. W.	21	2.20	....	0	0	Cumulus	4-4	N. W	....	....	....	....	....	Do.

Meteorological record for the five days ending November 4, 1872.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Thursday, Oct. 31	1 23 a.m.	29.86	59	25	29.78	25	23	74	N. W.	16	1.28	....	0	0	....	4-4	....	....	....	.03	....	....	Squalls of hail and snow.
	7 0 a.m.	29.80	49	24	29.75	24	23	86	N. W.	12	.72	....	Nimbus	1-4	Cumulus	3-4	W.	....	....	....	....	....	Do.
	10 23 a.m.	29.80	51	25	29.74	25	24	87	N. W.	8	.32	....	Nimbus	1-4	Cumulus	3-4	W.	....	....	.00	....	....	Do.
	2 0 p.m.	29.66	46	24	29.62	24	23	86	N. W.	9	.40	....	Stratus	1-4	Cumulus	1-2	W.	....	....	....	....	....	Do.
	5 23 p.m.	29.60	44	23	29.56	23	22	86	N.	5	.12	339	Stratus	1-4	Cumulus	3-4	W.	....	3.35 p.m.	.01	26	23	Do.
	9 0 p.m.	29.52	57	23	29.45	23	22	86	N. E.	1	.01	....	Stratus	1-4	Cumulus	3-4	N. E.	....	....	....	....	....	Do.
Friday, Nov. 1	1 23 a.m.	29.35	46	24	29.31	24	23	86	N. E.	3	.04	....	0	0	....	4-4	....	....	....	....	....	....	Do.
	7 0 a.m.	29.14	40	28	29.11	28	27	88	N. E.	25	3.12	....	Stratus	4-4	....	....	....	....	....	....	....	....	Do.
	10 23 a.m.	29.06	42	30	29.03	30	29	89	N. E.	24	2.88	....	Stratus	4-4	....	....	....	Night.	....	.00	....	....	Fine snow, lig't.
	2 0 p.m.	29.02	41	31	28.99	31	30	89	N. E.	24	2.88	....	Stratus	4-4	....	....	....	....	....	....	....	....	Do.
	5 23 p.m.	29.01	51	31	28.96	31	30	89	N. E.	27	3.64	398	Stratus	4-4	....	....	....	....	Night.	.01	31	23	Melted snow.
	9 0 p.m.	29.01	53	30	28.95	30	29	89	N. E.	28	3.92	....	Stratus	4-4	....	....	....	....	....	....	....	....	
Saturday, Nov. 2	1 23 a.m.	29.06	48	34	29.01	34	33	89	N. E.	29	4.20	....	0	0	....	4-4	....	....	....	....	....	....	
	7 0 a.m.	29.17	44	32	29.13	32	30	79	N. E.	26	3.38	....	0	0	Cumulus	4-4	N. E.	....	....	....	....	....	
	10 23 a.m.	29.26	50	31	29.21	31	29	78	N. E.	21	2.90	....	0	0	Cumulus	4-4	N. E.	....	....	....	....	....	
	2 0 p.m.	29.36	48	30	29.31	30	28	78	N.	14	.98	...	0	0	Cumulus	3-4	N.	....	....	....	....	....	
	5 23 p.m.	29.42	49	28	29.37	28	26	76	N.	13	.84	572	0	0	Cumulus	1-2	N.	....	....	....	34	28	
	9 0 p.m.	29.52	61	28	29.44	28	26	76	N.	9	.40	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
Sunday, Nov. 3	1 23 a.m	29.57	56	28	29.50	28	26	76	N.	12	.72	....	0	0	Cumulus	3-4	N.	....	....	....	....	....	
	7 0 a.m	29.67	44	28	29.63	28	26	76	N.	14	.98	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	10 23 a.m	29.72	59	27	29.64	27	25	76	N.	11	.60	...	Nimbus.	1-4	Cumulus	3-4	N.	9.55 a.m.	....	.00	....	....	Light squalls of hail and snow.
	2 0 p.m.	29.82	69	25	29.72	25	23	74	N.	17	1.44	....	0	0	Cumulus	3-4	N.	....	....	....	....	....	
	5 23 p.m.	29.88	69	24	29.78	24	22	73	N.	21	2.20	432	0	0	Cumulus	4-4	N.	....	3.30 p.m.	.01	29	24	
	9 0 p.m.	29.91	62	23	29.82	23	21	73	N.	22	2.42	....	0	0	Cumulus	3-4	N.	....	....	....	....	....	
Monday, Nov. 4	1 23 a.m.	29.94	57	23	29.87	23	21	73	N.	22	2.43	....	0	0	Cumulus	4-4	....	....	....	....	....	....	
	7 0 a.m.	29.98	42	25	29.95	25	23	74	N.	17	1 44	....	Stratus	1-2	Cumulus	1-2	N. W.	....	....	....	....	....	
	10 23 a.m.	30.01	62	27	29.92	27	26	88	N. W.	3	.04	....	Haze	....	Cirrus	4-4	N. W.	....	....	....	....	....	Cirro-cumulus.
	2 0 p.m.	29.91	55	27	29.84	27	26	88	E.	6	.18	....	Nimbus	4-4	....	....	....	....	....	....	....	....	Heavy snow.
	5 23 p.m.	30.01	56	25	29.94	25	23	74	N.	28	3.92	403	Nimbus.	3-4	Cumulus	1-4	N.	10.40 a.m.	....	.24	27	23	
	9 0 p.m.	30.10	59	25	30.02	25	23	74	N.	27	3.64	....	Stratus	1-2	Cumulus	1-2	N.	....	....	....	....	....	Aurora.

Meteorological record for the five days ending November 9, 1872

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from —)	Comm'en'd.	Ended.		Maximum.	Minimum.	
Tuesday, Nov. 5 ...	1 23 a. m.	30.08	52	26	30.02	26	25	87	N. E.	7	.24	....	Stratus..	3-4	0	0	0	...	6.15 p. m.	.01	...	...	Melted snow.
	7 0 a. m.	30.01	55	29	29.94	29	28	88	S. E.	13	.84	....	Stratus..	4-4	...	...	...	...	...	...	...	...	Light snow.
	10 23 a. m.	29.98	56	33	29.91	33	32	89	S. E.	14	.98	....	Stratus..	4-4	...	...	...	5.00 a. m.	...	.03	...	...	
	2 0 p. m.	29.94	59	36	29.86	36	35	90	S. W.	4	.08	....	Stratus..	4-4	...	...	...	...	...	...	...	...	Light rain.
	5 23 p. m.	30.00	65	37	29.91	37	36	90	W.	12	.72	323	Stratus..	4-4	...	...	...	...	2.20 p. m.	.02	37	25	Melted snow.
	9 0 p. m.	30.03	62	37	29.94	37	36	90	S.	28	3.92	....	Stratus..	4-4	...	...	...	...	...	...	...	...	
Wednesday, Nov. 6.	1 23 a. m.	30.02	52	37	29.96	37	36	90	S.	9	.40	...	Stratus..	4-4	...	...	...	...	...	...	...	...	
	7 0 a. m.	30.06	54	37	30.00	37	36	90	S.	13	.84	...	Stratus..	1-2	Cirrus ..	1-2	S. W.	...	...	...	...	...	
	10 23 a. m.	30.09	66	38	29.99	38	37	90	S.	13	.84	....	Stratus..	1-2	Cirrus ..	1-2	S. W.	...	...	...	...	...	
	2 0 p. m.	30.04	65	38	29.95	38	37	90	S.	20	2.00	....	Nimbus .	1-2	Cumulus	1-2	S.	...	...	...	...	...	Light dashes of rain.
	5 23 p. m.	29.99	62	37	29.90	37	36	90	S.	23	2.64	285	Stratus..	1-2	Cumulus	1-2	S.	1.50 p. m.	5.10 p. m.	.01	38	37	
	9 0 p. m.	29.92	60	37	29.84	37	36	90	S.	28	3.92	...	Stratus..	4-4	...	...	...	...	...	...	...	...	
Thursday, Nov. 7 ..	1 23 a. m.	29.80	54	39	29.74	39	38	90	S.	31	4.80	....	Stratus..	4-4	...	...	...	Night .	...	.02	...	...	
	7 0 a. m.	29.72	46	40	29.68	40	39	91	S.	25	3.12	....	Stratus..	1-2	Cirrus ..	1-2	S.	...	...	...	...	...	
	10 23 a. m.	29.76	55	40	29.69	40	39	91	S.	25	3.12	....	Stratus..	4-4	...	...	...	...	Night . .	.01	...	...	
	2 0 p. m.	29.79	49	40	29.74	40	39	91	S.	23	2.64	...	Stratus..	1-2	Cirrus ..	1-2	S.	...	...	...	...	...	
	5 23 p. m.	29.77	45	38	29.72	38	37	90	S.	21	2.20	687	Stratus..	1-4	Cirrus ..	3-4	S.	...	...	...	40	37	
	9 0 p. m.	29.80	49	38	29.75	38	37	90	S.	20	2.00	....	0	0	Cirrus ..	1-2	S.	...	...	...	...	...	
Friday, Nov. 8	1 23 a. m.	29.85	40	38	29.80	38	37	90	S.	25	3.12	....	Stratus..	1-4	Cirrus ..	1-4	...	...	...	...	...	...	
	7 0 a. m.	29.93	49	38	29.88	38	37	90	S.	27	3.64	....	Stratus..	1-4	0	0	0	...	...	...	...	...	
	10 23 a. m.	29.96	56	39	29.89	39	38	90	S.	29	3.92	....	Stratus..	1-2	Cirrus ..	1-2	S.	...	...	...	...	...	
	2 0 p. m.	29.91	49	39	29.86	39	38	90	S.	32	5.12	....	Stratus..	4-4	...	...	...	...	...	...	...	...	
	5 23 p. m.	29.92	48	39	29.87	39	38	90	S.	33	5.42	658	Stratus..	4-4	...	...	...	12.20 p. m.	7.30 p. m.	.03	39	38	Light rain.
	9 0 p. m.	30.03	61	38	29.95	38	37	90	S.	31	4.80	....	Stratus..	4-4	...	...	...	...	...	...	...	...	
Saturday, Nov. 9 ...	1 23 a. m.	29.99	54	38	29.93	38	37	90	S.	26	3.38	....	Stratus..	3-4	0	0	0	...	...	...	...	...	
	7 0 a. m.	29.96	46	38	29.92	38	37	90	S.	22	2.42	....	Stratus..	3-4	0	0	0	...	...	...	...	...	
	10 23 a. m.	29.98	61	40	29.90	40	38	82	S.	21	2.20	...	Stratus..	4-4	...	...	...	...	...	...	...	...	
	2 0 p. m.	29.93	60	41	29.85	41	40	91	S.	23	2.64	...	Stratus..	4-4	...	...	...	...	...	...	...	...	
	5 23 p. m.	29.92	53	40	29.86	40	39	91	S.	22	2.42	503	Stratus..	4-4	...	...	...	5.10 p. m.	...	...	41	37	Rain inappreciable.
	9 0 p. m.	29.92	64	39	29.83	39	38	90	S.	21	2.90	....	0	0	Cirrus ..	4-4	...	...	...	...	...	...	

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'd.	Ended.		Maximum.	Minimum.	
Sunday, Nov. 10	1 23 a. m.	29.88	54	38	29.82	38	37	90	S. E.	17	1.44		Stratus	4-4						.03			Light rain.
	7 0 a. m.	29.85	47	36	29.80	36	35	90	S. E.	13	.84		Stratus	4-4									
	10 23 a. m.	29.87	60	36	29.79	36	35	90	S. E.	10	.50		Stratus	1-2	Cirrus	1-2	S.			.11			
	2 0 p. m.	29.85	64	37	29.76	37	37	100	S. E.	7	.24		Fog	4-4									
	5 23 p. m.	29.8[illegible]	67	36	29.70	36	36	100	S. E.	15	1.12	350	Stratus	3-4	Cirrus	1-4	S.		11.40 a. m.	.01	40	36	
	9 0 p. m.	29.72	57	38	29.65	38	37	90	S. E.	24	2.88		Stratus	4-4									
Monday, Nov. 11	1 23 a. m.	29.61	53	38	29.55	38	37	90	S.	41	8.40		Stratus	4-4									
	7 0 a. m.	29.55	52	39	29.49	39	38	90	S. W.	38	7.22		Stratus	4-4									Upper dense mottl'd cirrus.
	10 23 a. m.	29.62	56	39	29.55	39	38	90	S. W.	27	3.64		Nimbus	1-2	Cirrus	1-2	S.	Night	11.05 a. m.	.08			Light rain.
	2 0 p. m.	29.70	57	39	29.63	39	37	81	S. W.	23	2.64		Hazy		Cirrus	4-4	S.						
	5 23 p. m.	29.77	61	38	29.69	38	36	81	S. W.	24	2.88	716	Hazy		Cirrus	4-4	S.				39	36	
	9 0 p. m.	29.91	53	37	29.85	37	35	80	S. W.	24	2.88		Hazy		Cirrus	1-4	S.						
Tuesday, Nov. 12	1 23 a. m.	29.98	49	33	29.93	33	32	89	S. W.	6	.18		Hazy		Cumulus	1-2	S. W.						
	7 0 a. m.	30.11	45	34	30.07	34	33	89	S. W.	4	.08		Hazy		Cumulus	1-4	S. W.						
	10 23 a. m.	30.19	69	36	30.09	36	35	90	S.	5	.12		Hazy		Cumulus	1-4	S. W.	D'g night	D'g night	.01			Melted hail.
	2 0 p. m.	30.21	67	37	30.11	37	35	80	S. W.	10	.50		Hazy		0	0	0						
	5 23 p. m.	30.23	69	35	30.13	35	34	89	S. W.	1	.01	216	Hazy		0	0	0				38	32	
	9 0 p. m.	30.27	69	35	30.16	35	33	79	0	0	0		0	0	0	0	0						
Wednesday, Nov. 13	1 23 a. m.	30.28	56	32	30.21	32	31	89	0	0	0		0	0	0	0	0						
	7 0 a. m.	30.23	49	30	30.23	30	29	89	0	0	0		0	0	0	0	0						Daily velocity taken henceforth at 7 a.m.
	10 23 a. m.	30.28	66	34	30.18	34	32	79	E.	7	.24		0	0	0	0	0						
	2 0 p. m.	30.22	55	35	30.15	35	33	79	E.	14	.98		0	0	Cumulus	1-2	E.						
	5 23 p. m.	30.15	61	34	30.07	34	33	83	E.	23	3.38		0	0	Cumulus	4-4	E.				35	29	
	9 0 p. m.	29.99	58	35	29.94	35	34	89	E.	32	5.12		Stratus	4-4									
Thursday, Nov. 14	1 23 a. m.	29.82	52	37	29.76	37	35	90	S. E.	40	8.00		Stratus	4-4				9.20 p. m.		.01			Light rain.
	7 0 a. m.	29.66	45	39	29.62	39	38	90	S. E.	36	6.48	603	Stratus	4-4									
	10 23 a. m.	29.66	59	39	29.58	39	38	90	S E	35	6.12		Stratus	4-4						.03			
	2 0 p. m.	29.60	57	39	29.53	39	38	90	S. E.	33	5.44		Stratus	4-4									
	5 23 p. m.	29.56	66	38	29.47	38	37	90	S. E.	36	6.48		Stratus	4-4						.02	39	33	Occas'l dashes of rain.
	9 0 p. m.	29.48	60	38	29.40	38	37	90	S. E.	61	18.60		Stratus	4-4									Rain.

Meteorological record for five days ending November 19, 1872.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Friday, Nov. 15	1 23 a. m.	29. 34	57	34	29. 27	34	33	89	S. W.	16	1. 28	....	Nimbus .	4-4	....	....	......	....	....	.21	....	....	Rain changing to snow.
	7 0 a. m.	29. 26	51	33	29. 21	33	32	80	0	0	0	635	Stratus .	1-2	Cirrus ..	1-2	S. E.	....	....	....	....	....	
	10 23 a. m.	29. 30	70	34	29. 20	34	34	100	S.W.	9	. 40	....	Nimbus .	1-4	Cumulus	3-4	S. W.	....	10.20 a. m.	. 04	....	....	
	2 0 p. m.	29. 25	69	35	29. 15	35	34	89	S.	8	. 32	....	Stratus..	1-4	Cumulus	1-4	S..	....	....	....	....	....	
	5 23 p. m.	29. 22	68	32	29. 12	32	31	89	S.W.	11	. 60	....	0	0	Cumulus	1-4	S. W.	....	....	....	38	32	
	9 0 p. m.	29. 16	65	32	29. 07	32	31	89	S.W.	9	. 40	..	0	0	0	0	0	....	....	....	....	....	
Saturday, Nov. 16 ..	1 23 a. m.	29. 14	58	31	29. 07	31	30	89	S.W.	19	1. 80	....	0	0	Cumulus	1-2	S.W.	....	....	....	....	....	
	7 0 a. m.	29. 12	46	34	29. 08	34	33	89	S.	21	2. 20	324	Stratus .	1-4	Cumulus	3-4	S.	....	....	....	....	....	
	10 23 a. m.	29. 19	66	35	29. 10	35	34	89	S.	27	3. 64	....	Nimbus .	3-4	Cumulus	1-4	S.	4.00 a. m.	....	. 04	....	....	
	2 0 p. m.	29. 20	60	37	29. 12	37	36	90	S.	25	3. 12	....	0	0	Cumulus	1-4	S.	....	....	....	....	....	
	5 23 p. m.	29. 26	65	35	29. 17	35	34	89	S.W.	30	4. 50	....	0	0	Cumulus	4-4	S.W.	....	8.00 p. m.	. 01	37	31	
	9 0 p. m.	29. 41	66	35	29. 32	35	34	89	N.W.	26	3. 98	....	Nimbus .	1-4	Cumulus	1-4	N. W.	8.00 p. m.	....	....	....	....	
Sunday, Nov. 17....	1 23 a. m.	29. 51	62	33	29. 43	33	32	89	N.W.	8	. 32	....	0	0	0	0	0	....	....	....	....	....	
	7 0 a. m.	29. 71	53	32	29. 65	32	32	100	N.W.	22	2. 42	451	Stratus .	1-2	Cumulus	1-2	N. W.	....	....	....	....	....	
	10 23 a. m.	29. 78	70	34	29. 67	34	32	79	N.W.	14	. 98	....	Stratus .	1-2	Cumulus	1-2	W.	Night...	6.50 a. m.	. 02	...	....	Melted snow.
	2 0 p. m.	29. 83	72	33	29. 72	33	29	60	N.W.	12	. 72	...	0	0	0	0	0	....	....	....	....	....	
	5 23 p. m.	29. 82	72	32	29. 71	32	29	69	N.W.	3	. 04	....	0	0	Cumulus	1-2	N. W.	....	....	....	35	31	
	9 0 p. m.	29. 80	72	28	29. 69	28	26	76	0	0	0	....	0	0	0	0	0	....	....	....	....	....	
Monday, Nov. 18 ...	1 23 a. m.	29. 61	56	27	29. 54	27	25	76	0	0	0	....	0	0	0	0	0	....	....	....	....	....	
	7 0 a. m.	29. 40	47	32	29. 36	32	31	89	S. E.	35	6. 12	295	0	0	Cumulus	4-4	S. E.	....	....	....	....	....	
	10 23 a. m.	29. 31	64	33	29. 22	33	32	89	S. E.	36	6. 48	....	0	0	Cum.-cir.	4-4	S. E.	....	....	....	....	....	
	2 0 p. m.	29. 11	61	34	29. 03	34	32	79	S. E.	38	7. 22	....	0	0	Cumulus	4-4	S. E.	....	....	....	....	....	
	5 23 p. m.	28. 93	59	34	28. 86	34	32	79	S. E.	42	8. 82	....	Stratus .	4-4	....	....	......	....	....	....	34	26	
	9 0 p. m.	28. 75	59	35	28. 68	35	34	89	S. E.	64	20. 51	....	Nimbus .	4-4	....	....	......	9.20 p. m.	....	....	....	....	Furious rain with gale.
Tuesday, Nov. 19...	1 23 a. m.	28. 70	60	35	28. 62	35	34	89	S. E.	24	2. 88	....	....	....	....	4-4	......	....	....	. 17	....	...	
	7 0 a. m.	28. 76	45	35	28. 72	35	34	89	S.W.	9	. 40	809	Stratus .	1-4	Cumulus	1-2	S.W.	....	....	....	....	....	
	10 23 a. m.	28. 84	58	37	28. 77	37	36	90	S.W.	16	1. 28	....	0	0	Cumulus	1-2	S.W.	....	Night...	. 02	....	....	
	2 0 p. m	28. 89	67	37	28. 79	37	36	90	S.W.	17	1. 44	....	Stratus .	1-4	Cumulus	1-4	S.W.	....	....	....	....	....	
	5 23 p. m.	28. 91	65	34	28. 82	34	33	89	S.W.	26	3. 38	....	0	0	Cumulus	1-4	S.W.	3.30 p. m.	4.40 p. m.	. 01	37	33	Occasional hail and snow.
	9 0 p. m.	28. 98	60	34	28. 90	34	33	89	S.W.	29	4. 90	....	Stratus .	1-4	Cumulus	1-4	S.W.	....	....	....	....	....	

Meteorological record for the five days ending November 24, 1872.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Wednesday, Nov. 20	1 23 a. m.	29.05	59	34	28.98	34	33	89	S. W.	33	5.44	....	Stratus	1-4	Cumulus	1-2	S. W.	8.30 p. m.	....	.01	....	....	
	7 0 a. m.	29.12	45	34	29.08	34	33	89	S. W.	14	.98	508	Stratus	1-4	Cirrus	3-4	W.	....	....	....	....	....	
	10 23 a. m.	29.26	61	33	29.18	33	33	100	W.	61	18.60	....	Nimbus	4-4	....	....	......	....	....	.04	....	....	
	2 0 p. m.	29.41	59	36	29.33	36	32	61	W.	28	3.92	....	Stratus	1-4	Cumulus	1-2	W.	....	....	....	....	....	
	5 23 p. m.	29.53	61	34	29.45	34	32	79	W.	27	3.64	....	Stratus	1-4	Cumulus	1-4	W.	....	5.20 p. m.	.02	37	32	
	9 0 p. m.	29.58	61	35	29.50	35	33	79	S.	16	1.28	....	Stratus	3-4	Cirrus	1-4	S.	....	....	....	....	....	
Thursday, Nov. 21	1 23 a. m.	29.48	57	37	29.41	37	36	90	S.	41	8.40	....	Nimbus	4-4	....	....	......	10.45 p. m.	....	.14	....	....	Rain.
	7 0 a. m.	29.42	46	40	29.38	40	39	91	S.	36	6.48	673	Stratus	4-4	....	....	......	....	....	....	....	....	Fine rain.
	10 23 a. m.	29.52	64	40	29.43	40	39	91	S.	31	4.80	....	Stratus	1-2	Cirrus	1-2	S.	....	9.50 a. m.	.17	....	....	
	2 0 p. m.	29.57	68	40	29.47	40	39	91	S.	25	3.12	....	Hazy	....	Cumulus	1-2	S.	....	....	....	....	....	
	5 23 p. m.	29.61	67	39	29.51	39	38	90	S.	22	2.42	..	Hazy	....	Cirrus	4-4	S.	....	....	....	41	32	
	9 0 p. m.	29.61	68	38	29.51	38	37	90	S.	18	1.62	..	Hazy	....	Cirrus	4-4	S.	....	....	....	....	....	
Friday, Nov. 22	1 23 a. m.	29.61	59	37	29.53	37	37	100	S.	13	.84	....	Stratus	4-4	....	....	......	11.10 p. m.	Night	.06	....	....	
	7 0 a. m	29.69	47	37	29.65	37	35	80	S.	34	5.78	540	Hazy	....	0	0	0	....	....	....	....	....	
	10 23 a. m.	29.83	62	38	29.74	38	36	81	S. W.	38	7.22	....	Hazy	....	0	0	0	8.40 a. m.	8.55 a. m.	.02	....	....	Melted snow or hail.
	2 0 p. m.	29.89	62	38	29.80	38	36	81	S.	27	3.64	...	Hazy	....	Cirrus	3-4	S. W.	....	....	....	....	....	
	5 23 p. m.	29.93	69	37	29.83	37	36	90	S.	15	1.12	...	Hazy	....	Cirrus	4-4	S. W.	....	....	....	39	34	
	9 0 p. m.	29.83	67	37	29.73	37	36	90	E.	20	2.00	...	Stratus	1-2	Cirrus	1-2	S. E.	....	....	....	....	....	
Saturday, Nov. 23	1 23 a. m.	29.57	58	39	29.50	39	38	90	S. E.	44	9.68	....	....	....	....	4-4	......	10.30 p. m.	....	.08	....	....	Maximum velocity, 74.
	7 0 a. m.	29.21	48	39	29.16	39	38	90	S. E.	45	10.12	786	Stratus	4-4	....	....	......	....	....	....	....	....	Rain.
	10 23 a. m.	29.23	60	38	29.15	38	37	90	S. E.	23	2.64	....	Stratus	1-2	Cirrus	1-2	S. E.	....	10.20 a. m.	.11	....	....	
	2 0 p. m.	29.25	70	39	29.15	39	38	90	S. E	30	4.50	....	Hazy	....	0	0	0	....	....	....	....	....	
	5 23 p. m.	29.25	63	37	29.17	37	36	90	S. E.	33	5.44	....	Hazy	....	Cumulus	1-2	S. E.	....	....	....	39	37	
	9 0 p. m.	29.28	61	37	29.20	37	36	90	S. E.	34	5.78	....	Hazy	....	Cumulus	4-4	S. E.	....	....	....	....	....	Aurora.
Sunday, Nov. 24	1 23 a. m.	29.27	54	37	29.21	37	36	90	E.	26	3.38	....	0	0	Cumulus	4-4	S. E.	....	....	....	....	....	
	7 0 a. m.	29.26	59	35	29.18	35	34	89	E.	6	.18	613	Stratus	4-4	....	....	......	....	....	....	....	....	
	10 23 a. m.	29.25	66	35	29.16	35	35	100	N. E.	7	.24	....	Fog	4-4	....	....	......	....	....	....	....	....	
	2 0 p. m.	29.11	63	35	29.03	35	34	89	N. W.	18	1.62	....	Stratus	4-4	....	....	......	....	....	....	....	....	Rain.
	5 23 p. m.	29.08	67	34	28.98	34	34	100	N.	11	.60	....	Stratus	1-2	Cirrus	1-2	N.	4 20 p. m.	....	.03	37	34	
	9 0 p. m.	29.05	69	35	28.95	35	35	100	N.	13	.84	....	Stratus	1-4	Cirrus	1-2	......	....	....	....	....	....	Aurora.

Meteorological record for the five days ending November 29, 1872.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Monday, Nov. 25	1 23 a. m.	29.02	61	35	28.94	35	35	100	N. W.	11	.60		Stratus	1-4	Cirrus	1-2	N. W.			.02			
	7 0 a. m.	29.07	53	35	29.01	35	35	100	N. W.	13	.84	272	Stratus	4-4									
	10 23 a. m.	29.08	66	36	28.99	36	35	90	N. W.	12	.72		Fog	3-4	Cirrus	1-4	N. W.						
	2 0 p. m.	29.08	72	36	28.97	36	36	100	N. W.	16	1.28		Stratus	4-4									
	5 23 p. m.	29.07	68	35	28.97	35	35	100	N. W.	28	3.92		Stratus	1-2	Cirrus	1-2	N. W.			.01	36	33	Dashes of rain.
	9 0 p. m.	29.11	71	35	29.00	35	35	100	N. W.	23	2.64		Nimbus	4-4									Do.
Tuesday, Nov. 26	1 23 a. m.	29.24	60	34	29.16	34	33	89	N. W.	14	.98		0	0	Cumulus	3-4	N. W.			.03			Do.
	7 0 a. m.	29.40	51	35	29.35	35	35	100	N. W.	12	.72	377	0	0	Cumulus	4-4	N. W.						
	10 23 a. m.	29.48	68	37	29.38	37	36	90	N. W.	14	.98		Nimbus	1-2	Cumulus	1-4	N. W.			.07			
	2 0 p. m.	29.65	70	35	29.45	35	34	89	N. W.	20	2.00		Stratus	1-4	Cumulus	1-2	N. W.						Flurries snow.
	5 21 p. m.	29.65	66	34	29.56	34	33	89	N. W.	29	4.20		Stratus	1-4	Cumulus	1-2	N. W.			.02	37	34	
	9 0 p. m.	29.75	68	33	29.65	33	32	89	N. W.	26	3.38		0	0	Cumulus	1-2	N. W.						Aurora.
Wednesday, Nov. 27	1 23 a. m.	29.74	59	32	29.66	32	31	89	N. W.	11	.60		0	0	Cumulus	4-4	N. W.		Night	.01			
	7 0 a. m.	29.72	50	32	29.67	32	31	89	0	0	0	380	Nimbus	1-4	Cumulus	3-4	0						Light snow.
	10 23 a. m.	29.72	68	33	29.62	33	32	89	S. E.	4	.08		Stratus	1-2	Cirrus	1-2	S. W.	Night		.01			
	2 0 p. m.	29.50	70	34	29.49	34	33	89	S. E.	14	.98		Stratus	1-2	Cirrus	1-2	S. W.						
	5 23 p. m.	29.40	63	34	29.31	34	33	89	S. E.	38	7.22		Nimbus	4-4							34	32	Light rain.
	9 0 p. m.	29.13	67	35	29.03	35	34	89	S. E.	46	10.58		Nimbus	4-4									Storm aurora.
Thursday, Nov. 28	1 23 a. m.	28.90	68	35	28.82	35	34	89	S. E.	62	19.11		Stratus	4-4						.08			Storm.
	7 0 a. m.	28.86	54	34	28.80	34	32	79	S. W.	36	6.48	587	Hazy		Cumulus	1-4	S. W.						
	10 23 a. m.	28.90	59	33	38.83	33	31	80	S. W.	35	6.12		Stratus	1-4	Cumulus	1-2	S. W.			.01			Light dashes of hail.
	2 0 p. m.	28.87	59	33	28.80	33	31	80	S. W.	34	5.78		Nimbus	1-2	Cumulus	1-2	S. W.						
	5 23 p. m.	28.86	63	33	28.78	33	31	80	S. W.	38	7.22		Nimbus	1-4	Cumulus	1-2	S. W.			.02	35	32	
	9 0 p. m.	28.85	61	33	28.77	33	31	80	S. W.	33	5.44		Nimbus	1-4	Cumulus	1-4	S. W.		Night				Light hail at intervals.
Friday, Nov. 29	1 23 a. m.	28.86	58	30	28.79	30	28	78	S. W.	18	1.62		Stratus	1-4	Cumulus	1-4	S. W.						
	7 0 a. m.	28.86	58	30	28.79	30	28	78	S.	4	.08	590	Stratus	1-4	Cumulus	1-4	S.						
	10 23 a. m.	28.93	69	30	28.83	30	29	89	S. E.	6	.18		Hazy		Cirrus	1-2	S. E.						
	2 0 p. m.	28.95	71	32	28.84	32	30	79	N. E.	2	.02		Hazy		Cirrus	1-4	E.						Cirrus ascended from cumulo-stratus.
	5 23 p. m.	29.00	70	28	28.90	28	27	88	N. E.	4	.08		Hazy		Cirrus	1-4	E.				33	28	
	9 0 p. m.	29.06	68	29	28.96	29	28	88	N.	4	.08		0	0	Cumulus	1-4	E.						

Meteorological record for the five days ending December 4, 1872.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'en'd.	Ended.		Maximum.	Minimum.	
Saturday, Nov. 30 ..	1 23 a. m.	29. 12	59	29	29. 05	29	28	88	N. W.	11	. 60	...	0	0	Cirrus ..	4-4	......	......	......	...	...	...	
	7 0 a. m.	29. 22	48	29	29. 17	29	28	88	N. W.	46	10. 58	236	Nimbus	4-4	......	...	......	......	......	...	...	...	Heavy snow.
	10 23 a. m.	29. 34	71	30	29. 23	30	28	78	N. W.	31	4. 80	....	Nimbus	1-2	Cumulus	1-4	N. W.	Night...	11.10 a. m.	. 21	...	...	Melted snow.
	2 0 p. m.	29. 42	62	28	29. 34	28	26	76	N. W.	28	3. 92	....	0	0	Cumulus	4-4	N. W.	......	......	...	...	...	
	5 23 p. m.	29. 49	70	27	29. 39	27	25	76	N. W.	26	3. 38	....	0	0	Cumulus	3-4	N. W.	......	......	...	30	26	Aurora in S.
	9 0 p. m.	29. 53	70	26	29. 43	26	25	87	N. W.	11	. 60	....	0	0	Cumulus	1-2	N. W.	......	......	...	...	...	Aurora.
Sunday, Dec. 1	1 23 a. m.	29. 49	57	23	29 42	23	22	86	W.	2	. 02	....	0	0	Cumulus	3-4	0	5.30 p. m.	......	. 14	...	...	Melted snow.
	7 0 a. m.	29. 46	64	20	29. 37	20	19	85	0	0	0	337	0	0	Cumulus	1-2	S. W.	......	......	...	...	...	
	10 23 a. m.	29. 44	69	26	29. 34	26	25	87	0	0	0	....	0	0	Cumulus	1-2	0	......	Night...	. 01	...	...	
	2 0 p. m.	29. 38	65	26	29. 29	26	25	87	S. E.	6	. 18	....	0	0	Cumulus	1-2	S. E.	......	......	...	...	...	
	5 23 p. m.	29. 33	65	27	29. 24	27	26	88	E.	23	2. 64	....	0	0	Cumulus	4-4	E.	4.15 p. m.	5.10 p. m.	. 02	28	19	
	9 0 p. m.	29. 32	68	26	29. 22	26	25	87	N. E.	13	. 84	....	0	0	Cumulus	3-4	N. E.	......	......	...	...	...	Aurora at 5.30 p. m.
Monday, Dec. 2.....	1 23 a. m.	29. 25	57	26	29. 18	26	25	87	E.	19	1. 80	....	0	0	Cumulus	4-4	E.	......	......	...	...	...	
	7 0 a. m.	29. 18	46	27	29. 14	27	26	88	E.	17	1. 44	298	0	0	Cumulus	3-4	E.	......	......	...	...	...	
	10 23 a. m.	29. 19	57	29	29. 12	29	27	77	E.	18	1. 62	....	0	0	Cumulus	3-4	E.	......	......	...	...	...	
	2 0 p. m.	29. 21	64	30	29. 12	30	29	89	E.	28	3. 92	....	0	0	Cumulus	3-4	E.	......	......	...	...	...	
	5 23 p. m.	29. 22	66	28	29. 13	28	27	88	N. E.	30	4. 50	....	0	0	Cumulus	4-4	N. E.	......	......	...	30	26	
	9 0 p. m.	29. 22	62	27	29. 14	27	26	88	E.	31	4. 80	...	0	0	Cumulus	4-4	E.	......	......	...	...	...	Aurora.
Tuesday, Dec. 3	1 23 a. m.	29. 20	56	28	29. 13	28	27	88	N. E.	34	5. 78	...	Nimbus	4-4	......	...	......	Night...	......	. 00	...	...	
	7 0 a. m.	29. 18	58	30	29. 11	30	29	89	N. E.	48	11. 52	692	Stratus	4-4	......	...	......	......	......	...	...	...	Fine snow.
	10 23 a. m.	29. 24	68	30	29. 14	30	29	89	N. E.	41	8. 40	....	Stratus	4-4	......	...	......	......	9.20 a. m.	. 07	...	...	Melted snow.
	2 0 p. m.	29. 29	67	30	29. 19	30	29	89	N. E.	42	8. 82	....	0	0	Cumulus	4-4	N. E.	......	......	...	...	...	
	5 23 p. m.	29. 34	70	30	29. 24	30	29	89	N. E.	31	4. 80	...	0	0	Cumulus	4-4	......	......	......	...	31	27	
	9 0 p. m.	29. 36	69	28	29. 29	28	26	76	N.	30	4. 50	....	0	0	Cumulus	1-2	N.	......	......	...	...	...	
Wednesday, Dec. 4.	1 23 a. m.	29. 38	59	26	29. 30	26	25	87	N.	44	9. 68	...	0	0	Cumulus	4-4	N.	6.00 p. m.	......	. 03	...	...	
	7 0 a. m.	29. 37	51	24	29. 32	24	23	86	N.	40	8. 00	873	Nimbus.	1-2	Cumulus	1-2	N.	......	......	...	...	...	Showers of snow.
	10 23 a. m.	29. 40	64	24	29. 31	24	23	86	N.	43	9. 42	....	Nimbus	1-4	Cumulus	3-4	N.	......	......	. 03	...	...	
	2 0 p. m	29. 37	63	25	29. 28	25	24	87	N.	45	10. 12	....	Nimbus.	1-2	Cumulus	1-2	N.	......	......	...	...	...	
	5 23 p. m.	29. 40	65	23	29. 31	23	22	86	N.	44	9. 68	....	Stratus .	4-4	......	...	......	......	......	. 05	30	23	
	9 0 p. m.	29. 42	61	23	29. 34	23	22	86	N.	39	7. 60	....	Nimbus.	4-4	......	...	......	......	......	...	...	...	

Meteorological record for the five days ending December 9, 1872.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Thursday, Dec. 5...	1 23 a.m.	29.41	54	23	29.35	23	22	86	N.	36	6.48		0	0	Cumulus	3-4	N.			.03			Melted snow.
	7 0 a.m.	29.43	48	23	29.40	23	22	86	N.	38	7.22	904	Nimbus	1-4	Cumulus	3-4	N.						
	10 23 a.m.	29.53	64	23	29.44	23	21	73	N.	36	6.48		Nimbus	1-2	Cumulus	1-2	N.			.05			Do.
	2 0 p.m.	29.54	61	22	29.46	22	21	86	N.	42	8.62		Nimbus.	4-4									
	5 23 p.m.	29.61	63	20	29.52	20	18	70	N.	34	5.78		0	0	Cumulus	4-4	N.			.06	23	20	Do.
	9 0 p.m.	29.66	64	21	29.57	21	19	71	N.	34	5.78		0	0	Cumulus	3-4	N.						
Friday, Dec. 6.....	1 23 a.m.	29.73	59	21	29.65	21	20	85	N. W.	32	5.12		Nimbus.	1-2	Cumulus	1-2	N. W.			.03			Do.
	7 0 a.m.	29.77	45	23	29.73	23	22	86	N. W.	29	4.20	803	0	0	Cumulus	4-4	N. W.						
	10 23 a.m.	29.86	62	25	29.77	25	23	74	N. W.	30	4.50		Nimbus.	1-4	Cumulus	3-4	N. W.			.03			Do.
	2 0 p.m.	29.92	65	25	29.83	25	24	87	N. W.	24	2.88		Nimbus.	3-4	Cumulus	1-4	N. W.						
	5 23 p.m.	29.98	71	25	29.87	25	23	74	N. W.	18	1.62		0	0	Cumulus	4-4	N. W.			.02	26	20	Do.
	9 0 p.m.	29.99	70	27	29.88	27	26	88	N. W.	17	1.44		0	0	Cumulus	4-4	N. W.						
Saturday, Dec. 7...	1 23 a.m.	30.00	57	26	29.93	26	25	87	N. W.	16	1.28		0	0	Cumulus	4-4	N. W.		7.50 p. m.	.02			Do.
	7 0 a.m.	30.07	68	26	29.97	26	24	75	N. W.	22	2.42	530	0	0	Cumulus	4-4	N. W.						
	10 23 a.m.	30.06	58	26	29.99	26	24	75	N. W.	23	2.64		0	0	Cumulus	4-4	N. W.	9.00 a. m.					
	2 0 p.m.	30.09	71	26	29.98	26	24	75	N. W.	18	1.62		0	0	Cumulus	4-4	N. W.						
	5 23 p.m.	30.09	67	26	29.99	26	24	75	N.	14	.98		0	0	Cumulus	4-4	N. W.		3.00 p. m.		27	25	
	9 0 p.m.	30.10	68	26	30.00	26	24	75	N.	14	.98		0	0	Cumulus	4-4	N.						
Sunday, Dec. 8.....	1 23 a.m.	30.07	56	24	30.00	24	23	86	N.	5	.12		0	0	Cumulus	1-2	N. W.						
	7 0 a.m.	30.05	47	20	30.00	20	19	85	Calm.	0	0	323	0	0	Cumulus	1-4	N. W.						
	10 23 a.m.	30.09	56	27	30.02	27	26	88	Calm.	0	0		0	0	Cumulus	1-2	N. W.						
	2 0 p.m.	30.10	67	29	30.00	29	28	88	Calm	0	0		0	0	Cumulus	3-4	N. W.						
	5 23 p.m.	30.11	66	26	30.01	26	25	87	E.	2	.02		0	0	Cumulus	1-4	N. W.				30	19	
	9 0 p.m.	30.10	62	26	30.01	26	24	75	E.	4	.08		0	0	0	0	0						
Monday, Dec. 9....	1 23 a.m.	30.08	58	26	30.01	26	24	75	S. E.	11	.60		Stratus.	1-4	Cirrus..	1-4	N. W.						
	7 0 a.m	29.98	44	28	29.94	28	26	76	S. E.	15	1.12	134	0	0	Cirrus..	3.4	S. W.						
	10 23 a.m.	29.97	51	30	29.91	30	29	89	S. E.	16	1.28		Stratus.	1-4	Cirrus..	3-4	S. W.						
	2 0 p.m.	29.96	64	32	29.87	32	30	79	S. E.	17	1.44		Stratus.	1-4	Cirrus..	1-2	S. W.						
	5 23 p.m.	29.97	66	29	29.87	29	28	88	S. E.	17	1.44		Stratus.	4-4							32	25	
	9 0 p.m.	29.97	72	29	29.86	29	28	88	S. E.	16	1.28		Stratus.	4-4									

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Tuesday, Dec. 10 ...	1 23 a. m.	29. 92	56	25	29. 85	25	24	87	E.	7	. 24	....	Stratus..	4-4	....	....	......	....	....	....	....	....	
	7 0 a. m.	29. 89	54	23	29. 83	23	22	86	Calm.	0	. 00	297	Stratus..	4-4	....	....	......	....	....	....	....	....	
	10 23 a. m.	29. 88	59	24	29. 80	24	23	86	N.	3	. 04	....	Stratus..	4-4	....	....	......	7. 30 a. m.	9. 00 a. m.	....	....	....	Sprinkle of fine rain.
	2 0 p. m.	29. 85	63	24	29. 76	24	24	100	N. W.	5	. 12	....	Stratus..	4-4	....	....	......	....	....	....	....	....	
	5 23 p. m.	29. 82	57	23	29. 73	23	23	100	N.	1	. 01	....	Stratus..	3-4	Cirrus...	1-4	N. W.	....	....	....	29	22	
	9 0 p. m.	29. 82	68	24	29. 72	24	24	100	E.	9	. 40	....	0	0	Cirrus...	4-4	N. W.	....	....	....	....	....	
Wednesday, Dec. 11.	1 20 a. m.	29. 77	57	23	29. 70	23	22	86	E.	11	. 60	....	Stratus..	1-2	Cirrus...	1-4	N. W.	....	....	....	....	....	
	7 0 a. m.	29. 75	66	26	29. 66	26	25	87	E.	13	. 84	166	Stratus..	1-2	0	0	0	....	....	....	....	....	
	10 23 a. m.	29. 72	62	28	29. 64	28	27	88	E.	28	3. 92	....	Stratus..	1-4	Cirrus...	3-4	S.	....	....	....	....	....	
	2 0 p. m.	29. 71	69	31	29. 61	31	30	89	E.	21	2. 20	....	Stratus..	4-4	....	....	......	....	....	....	....	....	
	5 23 p. m.	29. 69	67	33	29. 59	33	32	89	E.	22	2. 42	....	Stratus..	1-2	Cirrus...	1-2	S. E.	11. 10 a. m.	....	. 01	33	23	Melted snow.
	9 0 p. m.	29. 69	70	33	29. 59	33	32	89	E.	24	2. 88	....	Stratus..	1-2	Cirrus...	1-2	S. E.	....	....	....	....	....	
Thursday, Dec. 12 ..	2 23 a. m.	29. 58	58	34	29. 51	34	33	89	E.	25	3. 12	....	Stratus..	4-4	....	....	......	....	....	. 05	....	....	Rain.
	7 0 a. m.	29. 46	62	34	29. 38	34	33	89	E.	33	6. 12	513	Nimbus .	4-4	....	....	......	....	....	....	....	....	
	10 24 a. m.	29. 36	60	34	29. 28	34	34	100	E.	41	8. 40	....	Nimbus .	4-4	....	....	......	....	....	. 09	....	....	Do.
	2 0 p. m.	29. 26	71	35	29. 15	35	35	100	S. E.	23	2. 64	....	Stratus..	3-4	Cirrus...	1-4	S.	....	....	....	....	....	
	5 23 p. m.	29. 33	64	33	29. 24	33	32	89	S.	53	14. 04	....	Stratus..	1-4	Cirrus...	3-4	S.	....	....	. 01	36	33	Melted snow.
	9 0 p. m.	29. 39	62	32	29. 31	32	31	89	S.	39	7. 60	....	Stratus..	1-4	Cumulus	1-4	S.	....	....	....	....	....	
Friday, Dec. 13.....	1 23 a. m.	29. 36	57	32	29. 29	32	31	89	S.	24	2. 88	...	Stratus..	1-2	Cirrus...	1-4	S.	....	....	....	....	....	
	7 0 a. m.	29. 07	54	35	29. 01	35	34	89	S.	42	8. 82	714	Nimbus .	4-4	....	....	......	....	....	....	....	....	
	10 23 a. m.	29. 12	66	36	29. 03	36	35	90	S.	39	7. 60	....	Haze	....	Cumulus	1-4	S.	....	10. 05 a. m.	. 14	....	....	Rain.
	2 0 p. m.	29. 21	66	35	29. 12	35	34	89	S.	36	6. 48	....	Haze	....	0	0	0	....	....	....	....	....	
	5 23 p. m.	29. 29	68	34	29. 19	34	33	89	S.	35	6. 12	....	Stratus..	1-4	Cumulus	1-4	S.	3. 40 p. m.	3. 45 p. m.	. 01	36	32	Melted snow and sleet.
	9 0 p. m.	29. 33	62	34	29. 25	34	33	89	S.	34	5. 78	....	Haze	....	Cumulus	1-4	S.	....	....	....	....	....	
Saturday, Dec. 14...	1 23 a. m.	29. 33	58	32	29. 26	32	31	89	S. E.	16	1. 28	....	Haze	....	Cirrus ..	1-2	S.	9. 40 p. m.	10. 05 p. m.	. 01	....	....	Melted snow.
	7 0 a. m.	29. 26	44	33	29. 22	33	32	89	E.	20	2. 00	653	0	0	Cumulus	4-4	......	....	....	....	....	....	
	10 23 a. m.	29. 26	63	33	29. 17	33	33	100	S. E.	23	2. 64	....	Stratus..	1-3	Cirrus ..	1-2	S. E.	7. 35 a. m.	....	. 04	....	....	Do.
	2 0 p. m.	29. 31	67	34	29. 11	34	34	100	S. W.	51	13. 00	....	0	0	Cumulus	1-2	S W.	....	....	....	....	....	
	5 23 p. m.	29. 45	68	31	29, 35	32	31	89	S. W.	33	5. 44	....	0	0	Cumulus	1-2	S. W.	....	....	01.	35	32	Rain and snow.
	9 0 p. m.	29. 47	72	32	29. 36	32	32	100	S. E.	14	. 98	....	0	0	Cirrus...	4-4	S. W,	....	....	....	....	....	

Meteorological record for the five days ending December 19, 1872.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Sunday, Dec. 15	1 23 a. m.	29. 33	59	32	29. 25	32	32	100	S. E.	12	. 72		Nimbus.	4-4				9.30 p. m.		. 14			Melted snow.
	7 0 a. m.	29. 08	63	34	29. 00	34	33	89	S.	18	1. 62	469	0	0	Cumulus	4-4							
	10 23 a. m.	29. 17	66	32	29. 08	32	32	100	S. W.	16	1. 28		Stratus	4-4					Night	. 27			Do.
	2 0 p. m.	29. 30	71	33	29. 19	33	32	89	S. W.	6	. 18		0	0	Cirrus	1-2	S.						
	5 23 p. m.	29. 34	70	33	29. 24	33	32	89	S. E.	3	. 04		Nimbus	1-2	Cirrus	1-2	S.	5.20 p. m.		. 01	34	32	Rain.
	9 0 p. m.	29. 34	71	32	29. 23	32	32	100	S. E.	11	. 60		0	0	Cirrus	1-4	S.						
Monday, Dec. 16	1 23 a. m.	29. 31	65	33	29. 22	33	32	89	S. E.	14	. 98		Stratus	1-4	Cumulus	3-4	S.	0	0	. 01			Melted snow.
	7 0 a. m.	29. 26	56	33	29. 19	33	32	89	S.	37	6. 84	307	Stratus	1-4	Cumulus	1-2	S.						
	10 23 a. m.	29. 29	64	34	29. 20	34	33	89	S.	31	4. 80		Stratus	1-4	Cumulus	1-2	S.	0	0	. 02			Rain.
	2 0 p. m.	29. 32	72	34	29. 21	34	33	89	S.	28	3. 92		Nimbus	1-4	Cumulus	1-2	S.						
	5 23 p. m.	29. 30	72	33	29. 19	33	32	89	S. E.	14	. 98		Haze		Cirrus	3-4	S.			. 01	35	31	Melted snow.
	9 0 p. m.	29. 23	71	33	29. 12	33	32	89	E.	16	1. 28		0	0	Cirrus	4-4	S.						
Tuesday, Dec. 17	1 23 a. m.	29. 14	58	33	29. 07	33	32	89	E.	7	. 24		0	0	Cirrus	4-4	S.		Night	. 01			Do.
	7 0 a. m.	28. 88	57	32	28. 81	32	32	100	S.	2	. 02	431	Fog	4-4									
	10 23 a. m.	28. 91	65	32	28. 82	32	31	89	W.	17	1. 44		0	0	Cumulus	1-4	W.						
	2 0 p. m.	28. 72	69	31	28. 62	31	30	89	N. E.	18	1. 62		Nimbus	4-4									
	5 23 p. m.	28. 93	70	31	28. 83	31	30	89	N. E.	8	. 32		0	0	Cumulus	4-4	N.				33	31	
	9 0 p. m.	28. 72	69	31	28. 62	31	30	89	N. E.	18	1. 62		Nimbus	4-4									
Wednesday, Dec. 18	1 23 a. m.	28. 51	58	31	28. 44	31	30	89	N. E.	30	4. 50		Nimbus	4-4				8.10 p. m.		. 13			Do.
	7 0 a. m.	28. 19	46	35	28. 15	35	35	100	S. E.	35	6. 12	336	Stratus	3-4	Cirrus	1-4	S.						
	10 23 a. m.	28. 20	69	35	28. 10	35	35	100	S. E.	34	5. 78		Stratus	4-4						. 24			Rain.
	2 0 p. m.	28. 15	70	35	28. 05	35	35	100	S. E.	30	4. 50		Stratus	4-4									
	5 23 p. m.	28. 19	69	35	28. 09	35	35	100	S. E.	28	3. 92		Stratus	3-4	Cirrus	1-4	S.			. 04	36	31	Do.
	9 0 p. m.	28. 24	65	34	28. 15	34	33	89	S. W.	21	2. 64		Haze		Cumulus	3-4	S. W.						
Thursday, Dec. 19	1 23 a. m.	28. 47	54	32	28. 41	32	31	89	S. W.	35	6. 12		Stratus	1-4	Cumulus	1-2	S. W.			. 02			Melted snow.
	7 0 a. m.	28. 85	49	31	28. 80	31	30	89	S. W.	28	3. 92	816	Stratus	1-2	Cumulus	1-2	S. W.						
	10 23 a. m.	28. 98	58	30	28. 91	30	29	89	S. W.	34	5. 78		Stratus	1-4	Cumulus	1-2	S. W.			. 04			Do.
	2 0 p. m.	29. 12	60	29	29. 04	29	28	88	S. W.	22	2. 42		Stratus	1-4	Cumulus	1-4	S. W.						
	5 23 p. m.	29. 24	66	29	29. 15	29	28	88	S. W.	27	3. 64		Stratus	1-4	Cumulus	1-4	S. W.			. 01	35	29	Do.
	9 0 p. m.	29. 49	67	29	29. 39	29	28	88	S. W.	30	4. 50		0	0	Cumulus	1-4	S. W.						

Meteorological record for the five days ending December 24, 1872.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observaiion.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Friday, Dec. 20	1 23 a. m.	29. 55	57	26	29. 48	26	25	87	S. W.	9	. 40	....	Stratus	1-4	Cumulus	1-4	S. W.	....	8.30 p. m.	. 05	....	....	Melted snow.
	7 0 a. m.	29. 64	46	26	29. 60	26	25	87	Calm.	0	. 00	516	0	0	Cumulus	1-4	S.	....	....	....	....	....	
	10 23 a. m.	29. 72	62	30	29. 64	30	20	89	S. E.	7	. 24	....	Stratus	1-4	Cumulus	1-4	S.	9.20 a. m.	9.35 a. m.	. 01	....	....	Melted snow.
	2 0 p. m.	29. 79	70	30	29. 68	30	29	89	S. E.	5	. 12	....	0	0	Cirrus	1-4	S.	....	....	....	....	....	
	5 23 p. m.	29. 83	71	29	29. 72	29	28	88	S. E.	2	. 02	....	Stratus	1-2	Cirrus	1-2	S. E.	....	....	....	31	25	
	9 0 p. m.	29. 87	69	31	29. 77	31	30	89	S. E.	7	. 24	....	0	0	Cirrus	4-4	....	....	....	....	....	....	
Saturday, Dec. 21	1 23 a. m.	29. 90	58	30	29. 83	30	29	89	E.	5	. 12	....	0	0	Cirrus	3-4	....	....	....	....	....	....	
	7 0 a. m.	29. 99	61	30	29. 91	30	29	89	E.	5	. 12	123	0	0	0	0	0	....	....	....	....	....	
	10 23 a. m.	30. 05	67	29	29. 95	29	28	88	N. E.	6	. 18	....	0	0	0	0	0	....	....	....	....	....	
	2 0 p. m.	30. 06	70	31	29. 95	31	29	78	N. E.	7	. 24	....	0	0	0	0	0	....	....	....	....	....	
	5 23 p. m.	30. 08	71	30	29. 97	30	28	78	N. E.	14	. 98	....	0	0	Cumulus	1-4	N. E.	....	....	....	31	29	
	9 0 p. m.	30. 09	68	28	29. 99	28	27	88	N. E.	19	1. 80	....	0	0	Cirrus	1-4	S.	....	....	....	....	....	
Sunday, Dec. 22	1 23 a. m.	30. 05	57	30	29. 98	30	30	100	N. E.	32	5. 12	....	Stratus	4-4	....	....	....	....	....	....	....	....	
	7 0 a. m.	29. 98	54	31	29. 92	31	31	100	N. E.	32	5. 12	460	Stratus	4-4	....	....	....	....	....	....	....	....	
	10 23 a. m.	29. 98	59	31	29. 90	31	31	100	N. E.	25	3. 12	....	Stratus	4-4	....	....	....	....	....	....	....	....	
	2 0 p. m.	30. 00	65	31	29. 91	31	31	100	N. E.	30	4. 50	....	Stratus	4-4	....	....	....	....	....	....	....	....	
	5 23 p. m.	30. 01	69	31	29. 91	31	31	100	N. E.	32	5. 12	....	Stratus	4-4	....	....	....	....	....	....	31	28	
	9 0 p. m.	30. 03	65	31	29. 94	31	31	100	N. E.	34	5. 78	....	Stratus	4-4	....	....	....	....	....	....	....	....	
Monday, Dec. 23	1 23 a. m.	30. 00	57	31	29. 93	31	31	100	N. E.	30	4. 50	....	Stratus	4-4	....	....	....	8.20 p. m.	....	. 01	....	....	Fine rain.
	7 0 a. m.	30. 02	58	31	29. 95	31	30	89	N. E.	32	5. 12	685	Stratus	4-4	....	....	....	....	....	....	....	....	
	10 23 a. m.	30. 04	64	30	29. 95	30	30	100	N. E.	34	5. 78	....	Stratus	4-4	....	....	....	....	....	. 01	....	....	Light misty rain.
	2 0 p. m.	30. 03	66	31	29. 93	31	30	89	N. E.	32	5. 12	....	Stratus	4-4	....	....	....	....	....	....	....	....	
	5 23 p. m.	30. 02	68	31	29. 92	31	30	89	N. E.	31	4. 80	....	Stratus	4-4	....	....	....	....	10.30 a. m.	....	31	30	
	9 0 p. m.	30. 00	67	30	29. 90	30	29	89	N. E.	35	6. 12	....	0	0	Cumulus	4-4	N. E.	....	....	....	....	....	
Tuesday, Dec. 24	1 23 a. m.	29. 97	58	30	29. 90	30	29	89	N. E.	39	7. 60	....	0	0	Cumulus	4-4	N. E.	....	....	....	....	....	
	7 0 a. m.	29. 88	60	29	29. 80	29	28	88	N. E.	40	8. 00	785	0	0	Cumulus	4-4	N. E.	....	....	....	....	....	
	10 23 a. m.	29. 86	70	29	29. 75	29	28	88	N. E.	39	7. 60	....	0	0	Cumulus	4-4	N. E.	....	....	....	....	....	
	2 0 p. m.	29. 77	68	28	29. 67	28	27	88	N. E.	42	8. 82	...	0	0	Cumulus	4-4	N. E.	....	....	....	....	....	
	5 23 p. m.	29. 77	69	28	29. 67	28	27	88	N. E.	40	8. 00	....	0	0	Cumulus	4-4	N. E.	....	....	....	31	28	
	9 0 p. m.	29. 72	64	27	29. 63	27	26	88	N.	41	8. 40	....	0	0	Cumulus	3-4	N.	....	....	....	....	....	Light auroral glow.

Meteorological record for the five days ending December 29, 1872.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Wednesday, Dec. 25	1 23 a. m.	29. 63	57	27	29. 56	27	26	88	N.	35	6. 12	....	Stratus..	4-4	0	0	0	....	....	....	....	....	
	7 0 a. m.	29. 53	44	26	29. 49	26	25	87	N.	28	3. 92	852	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	10 23 a. m.	29. 56	65	26	29. 47	26	25	87	N.	24	2. 88	....	0	0	Cumulus	4-4	N.	7.30 a. m.	8.10 a. m.	....	....	....	Light squalls snow and rain.
	2 0 p. m.	29. 54	72	26	29. 43	26	25	87	N.	26	3. 38	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	5 23 p. m.	29. 53	67	26	29. 43	26	25	87	N.	24	2. 88	....	0	0	Cumulus	4-4	N.	....	....	....	28	25	
	9 0 p. m.	29. 53	68	25	29. 43	25	24	87	N.	22	2. 42	....	0	0	Cumulus	3-4	N.	....	....	....	....	....	Aurora.
Thursday, Dec. 26.	1 23 a. m.	29. 49	59	21	29. 41	21	20	85	N.	11	. 60	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	7 0 a. m.	29. 46	54	22	29. 40	22	21	86	N. W.	9	. 40	556	0	0	Cumulus	4-4	N. W.	....	....	....	....	....	
	10 23 a. m.	29. 47	65	23	29. 38	23	22	86	N. W.	6	. 18	....	0	0	Cumulus	3-4	N. W.	9.10 a. m.	....	....	....	....	
	2 0 p. m.	29. 42	71	25	29. 31	25	24	87	N.	4	. 08	....	0	0	Cumulus	4-4	N. W.	....	....	....	....	....	
	5 23 p. m.	29. 43	72	22	29. 32	22	21	86	N. E.	15	1. 12	....	0	0	Cumulus	3-4	......	....	....	. 02	26	20	Melted snow.
	9 0 p. m.	29. 47	68	21	29. 38	21	20	85	N. E.	22	2. 42	....	0	0	Cumulus	4-4	N. W.	....	....	....	....	....	
Friday, Dec. 27....	1 23 a. m.	29. 53	54	17	29. 47	17	16	83	N. W.	24	2. 88	....	Nimbus.	4-4	....	....	......	....	....	. 11	....	....	Do.
	7 0 a. m.	29. 46	54	22	29. 40	22	21	86	N. W.	9	. 40	367	0	0	Cumulus	4-4	N. W.	....	....	....	....	....	
	10 23 a. m.	29. 63	65	19	29. 54	19	19	100	N. W.	24	2. 88	....	Nimbus.	1-2	Cumulus	1-4	N. W.	....	....	. 06	....	....	Do.
	2 0 p. m.	29. 70	71	18	29. 59	18	17	84	N.	23	2. 64	....	0	0	Cumulus	4-4	N. W.	....	....	....	....	....	
	5 23 p. m.	29. 69	70	17	29. 59	17	16	83	N.	22	2. 42	....	Nimbus.	1-2	Cumulus	1-4	N. W.	....	....	. 02	22	15	Do.
	9 0 p. m.	29. 65	57	15	29. 58	15	14	82	N. E.	10	. 50	....	0	0	Cirrus ..	3-4	N. W.	....	....	....	....	....	
Saturday, Dec. 28..	1 23 a. m.	29. 65	54	13	29. 59	13	12	81	N. E.	9	. 40	....	Nimbus.	4-4	....	....	......	....	....	. 09	....	....	Do.
	7 0 a. m.	29. 67	59	13	29. 59	13	12	81	N. E.	20	2. 00	411	0	0	Cirrus ..	4-4	N. W.	....	....	....	....	....	
	10 23 a. m.	29. 70	70	13	29. 60	13	13	100	N.	18	1. 62	....	0	0	Cumulus	3-4	N. W.	....	....	. 04	....	....	Do.
	2 0 p. m.	29. 73	71	14	29. 62	14	13	81	N. E.	27	3. 64	....	0	0	Cumulus	1-2	N. E.	....	....	....	....	....	
	5 23 p. m.	29. 79	66	15	29. 69	15	14	82	N. E.	36	6. 48	....	Nimbus.	4-4	....	...	......	....	....	. 09	17	12	Do.
	9 0 p. m.	29. 88	68	16	29. 78	16	16	100	N. E.	39	7. 60	....	Nimbus.	4-4	....	....	......	....	....	....	....	....	
Sunday, Dec. 29....	1 23 a. m.	29. 94	59	17	29. 86	17	16	83	N.	15	1. 12	....	0	0	Cumulus	4-4	N.	....	....	. 12	....	....	
	7 0 a. m.	30. 01	45	18	29. 97	18	17	84	N.	20	2. 00	552	0	0	Cumulus	4-4	N.	....	....	....	....	....	Light snow.
	10 23 a. m.	30. 06	57	19	29. 99	19	18	84	N.	21	2. 20	....	Nimbus.	1-2	Cumulus	1-2	N.	....	....	. 08	....	....	
	2 0 p. m.	30. 12	72	19	30. 01	19	18	84	N.	20	2. 00	....	Nimbus.	1-2	Cumulus	1-2	N.	....	....	....	....	....	
	5 23 p. m.	30. 15	71	18	30. 04	18	17	84	N.	24	2. 88	....	0	0	Cumulus	4-4	N.	....	....	. 02	19	15	
	9 0 p. m.	30. 15	70	17	30. 04	17	16	83	N.	21	2. 20	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	

Meteorological record for the five days ending January 3, 1873.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Monday, Dec. 30...	1 23 a. m.	30.00	55	19	30.02	19	18	84	N.	38	7.22	....	0	0	Cumulus	4-4	N.	....	....	.03	....	....	Melted snow.
	7 0 a. m.	30.03	59	19	29.95	19	18	84	N. W.	25	3.12	644	0	0	Cumulus	3-4	N. W.	....	....	....	....	....	Light snow.
	10 23 a. m.	30.01	67	18	29.91	18	17	84	N.	29	4.20	....	0	0	Cumulus	4-4	N.	....	....	.01	....	....	
	2 0 p. m.	29.94	63	16	29.85	16	15	82	N.	38	7.22	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	Light snow-squalls.
	5 23 p. m.	29.93	66	12	29.83	12	12	100	N.	34	5.78	....	Nimbus	1-2	Cumulus	1-2	N.	....	....	.07	20	12	
	9 0 p. m.	29.91	66	7	29.81	7	6	76	N.	30	4.50	....	Nimbus	4-4	....	....	....	....	....	....	....	....	Heavy snow, aurora.
Tuesday, Dec. 31..	1 23 a. m.	29.85	53	4	29.79	4	3	74	N.	24	2.88	....	Nimbus	4-4	....	....	....	....	....	.08	....	....	
	7 0 a. m.	29.78	62	11	29.69	11	11	100	N.	30	4.50	689	Nimbus	4-4	....	....	....	....	....	....	....	....	Heavy snow-squalls.
	10 23 a. m.	29.75	66	13	29.66	13	13	100	N.	31	4.80	....	Nimbus	3-4	Cumulus	1-4	N.	....	....	.10	....	....	
	2 0 p. m.	29.72	65	14	29.63	14	13	81	N.	29	4.20	....	Nimbus	1-2	Cumulus	1-2	N.	....	....	....	....	....	
	5 23 p. m.	29.70	66	15	29.61	15	14	82	N.	30	4.50	....	0	0	Cumulus	4-4	N.	....	....	.06	15	4	
	9 0 p. m.	29.68	67	16	29.58	16	15.5	91	N.	33	5.44	....	Nimbus	4-4	....	....	....	....	....	....	....	....	
Wednesday, Jan. 1.	1 23 a. m.	29.70	65	17	29.59	17	16.5	91	N.	34	5.78	....	0	0	Cumulus	4-4	N.	....	....	.05	....	....	
	7 0 a. m	29.70	65	19	29.61	19	18.5	92	N.	24	2.88	725	0	0	Cumulus	3-4	N.	....	....	....	....	....	
	10 23 a. m	29.75	65	20	29.66	20	19.5	92	N.	25	3.12	....	0	0	Cumulus	3-4	N.	....	....	.02	....	....	
	2 0 p. m.	29.79	67	19	29.69	19	18.5	92	N.	26	3.38	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	Light snow-squalls.
	5 23 p. m.	29.83	65	19	29.74	19	18.5	92	N.	22	2.42	....	0	0	Cumulus	4-4	N.	....	....	.01	20	15	
	9 0 p. m.	29.89	61	17	29.81	17	16	83	N.	19	1.80	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
Thursday, Jan. 2...	1 23 a. m.	29.90	57	15	29.83	15	14	82	N.	21	2.20	....	0	0	Cumulus	4-4	N.	....	....	.02	....	....	
	7 0 a. m.	39.97	68	16	29.87	16	15	82	N.	24	2.88	589	Nimbus	1-2	Cumulus	1-2	N.	....	....	....	....	....	Light snow.
	10 23 a. m.	29.97	69	15	29.87	15	14	82	N.	24	2.88	....	Nimbus	1-2	Cumulus	1-2	N.	....	....	.01	....	....	
	2 0 p. m.	29.97	65	15	29.88	15	14.5	91	N.	19	1.80	....	Nimbus	1-2	Cumulus	1-2	N.	....	....	....	....	....	
	5 23 p. m.	29.98	64	15	29.89	15	14	82	N.	17	1.44	....	Nimbus	1-2	Cumulus	1-2	N.	....	....	.03	19	14	
	9 0 p. m.	30.02	67	15	29.92	15	14.5	91	N.	22	2.42	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
Friday, Jan. 3	1 23 a. m.	30.01	59	16	29.93	16	15	83	N. E.	21	2.20	....	0	0	Cumulus	1-2	N. E.	....	10.15 p. m.	.01	....	....	Melted snow.
	7 0 a. m.	30.05	67	18	29.95	18	17	84	N. E.	19	1.80	516	0	0	0	0	0	....	....	....	....	....	
	10 23 a. m.	30.05	67	19	29.95	19	18	84	N. E.	22	2.42	....	0	0	0	0	0	....	....	....	....	....	
	2 0 p. m.	30.04	70	22	29.93	22	21	86	N. E.	22	2.42	....	0	0	0	0	0	....	....	....	....	....	
	5 23 p. m.	30.05	68	21	29,95	21	20	85	N. E.	18	1.62	....	0	0	0	0	0	....	....	....	22	15	
	9 0 p. m.	30.06	70	19	29.95	19	18	84	N. E.	16	1.28	....	0	0	0	0	0	....	....	....	....	....	

Meteorological record for the fire days ending January 8, 1873.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Saturday, Jan. 4	1 23 a. m.	30.04	55	18	29.97	18	17	84	N. E.	15	1.12	....	0	0	0	0	0	....	....	....	....	....	
	7 0 a. m.	30.10	68	70	30.00	17	16	83	N.	16	1.28	431	0	0	0	0	0	....	....	....	....	....	
	10 23 a. m.	30.12	67	17	30.02	17	16	83	N.	15	1.12	....	0	0	0	0	0	....	....	....	....	....	
	2 0 p. m.	30.13	68	18	30.03	18	17	84	N.	12	.72	....	0	0	0	0	0	....	....	....	....	....	
	5 23 p. m.	30.16	70	15	30.05	15	14	82	N.	7	.24	....	0	0	0	0	0	....	....	....	21	15	
	9 0 p. m.	30.20	70	15	30.09	15	14	82	N.	7	.24	....	0	0	0	0	0	....	....	....	....	....	
Sunday, Jan. 5	1 23 a. m.	30.17	57	15	30.10	15	14.5	91	0	0	0	....	0	0	Cumulus	1-2	N. W.	....	....	....	....	....	
	7 0 a. m.	30.21	67	19	30.11	19	18	84	S. W.	1	.01	123	0	0	Cumulus	4-4	N. W.	....	....	....	....	....	
	10 23 a. m.	30.21	69	22	30.11	22	21	86	0	0	0	..	0	0	Cumulus	4-4	N. W.	....	....	....	....	....	
	2 0 p. m.	30.21	69	25	30.11	25	24	87	W.	5	.12	....	0	0	Cumulus	4-4	N. W.	....	....	....	....	....	
	5 23 p. m.	30.20	64	25	30.11	25	24	87	W.	6	.18	....	0	0	Cumulus	4-4	W.	2.35 p. m.	....	....	25	12	
	9 0 p. m.	30.21	71	26	30.10	26	25	87	S.	2	.02	....	0	0	Cumulus	4-4	W.	....	....	....	....	....	
Monday, Jan. 6	1 23 a. m.	30.17	59	26	30.09	26	25	87	S.	3	.04	....	0	0	Cumulus	4-4	....	....	....	.04	....	....	
	7 0 a. m	30.18	70	28	30.07	28	27	88	S.	2	.02	135	0	0	Cumulus	4-4	W.	....	....	....	....	....	
	10 23 a. m.	30.18	70	28	30.07	28	27	88	S.	2	.02	....	0	0	Cumulus	4-4	W.	....	....	....	....	....	
	2 0 p. m.	30.17	71	29	30.06	29	28	88	S. W.	3	.04	....	0	0	Cumulus	4-4	S. W.	....	....	....	....	....	
	5 23 p. m.	30.17	71	26	30.06	26	25	87	S. W.	1	.01	....	0	0	Cumulus	4-4	S. W.	....	4.30 p. m.	.00	29	24	
	9 0 p. m.	30.19	70	26	30.08	26	25	87	S. W.	3	.04	....	0	0	Cirrus.	3-4	W.	....	....	....	....	....	
Tuesday, Jan. 7	1 23 a. m.	30.16	58	26	30.09	26	26	100	S.	1	.01	....	0	0	Cirrus...	4-4	W.	....	....	....	....	....	
	7 0 a. m.	30.16	58	26	30.09	26	25.5	93	E.	17	1.44	63	Stratus	4-4	....	....	....	....	....	....	....	....	
	10 23 a. m.	30.24	70	26	30.13	26	25.5	93	E.	27	3.64	....	Stratus	4-4	....	....	....	....	....	....	....	....	
	2 0 p. m.	30.25	71	24	30.14	24	23	86	E.	26	3.38	....	Stratus	4-4	....	....	....	....	....	....	....	....	
	5 23 p. m.	30.28	67	22	30.18	22	21.5	92	E.	34	5.78	....	Stratus	4-4	....	....	....	....	....	....	27	22	
	9 0 p. m.	30.33	66	19	30.23	19	19	100	E.	35	6.12	....	0	0	Cumulus	4-4	E.	....	....	....	....	....	
Wednesday, Jan. 8	1 23 a. m.	30.34	52	19	30.26	19	18	84	E.	28	3.92	....	0	0	Cumulus	4-4	E.	....	....	....	....	....	
	7 0 a. m.	30.42	57	19	30.35	19	18	84	E.	32	5.12	717	0	0	Cumulus	4-4	E.	....	....	....	....	....	
	10 23 a. m.	30.44	66	20	30.34	20	19	85	E.	31	4.80	....	0	0	Cumulus	4-4	E.	....	....	....	....	....	
	2 0 p. m.	30.42	67	21	30.32	21	20	85	E.	32	5.12	....	0	0	Cumulus	4-4	E.	....	....	....	....	....	
	5 23 p. m.	30.40	66	21	30.30	21	20	85	E.	33	5.44	....	0	0	Cumulus	4-4	E.	....	....	....	22	18	
	9 0 p. m.	30.38	63	21	30.29	21	20	85	E.	32	5.12	....	0	0	Cumulus	4-4	E.	....	....	....	....	....	

Meteorological record for the five days ending January 13, 1873.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from)—	Comment'd.	Ended.		Maximum.	Minimum.	
Thursday, Jan. 9	1 23 a. m.	30. 31	50	22	30. 26	22	21	86	E.	33	5. 44		0	0	Cumulus	4-4	E.	Night					Few flakes.
	7 0 a. m.	30. 28	63	22	30. 19	22	21	86	E.	29	4. 20	733	0	0	Cumulus	4-4	E.						
	10 23 a. m.	30. 28	69	22	30. 17	22	21	86	E.	31	4. 80		0	0	Cumulus	4-4	E.		Night	.00			
	2 0 p. m.	30. 21	58	24	30. 14	24	23	86	E.	29	4. 20		0	0	Cumulus	4-4	E.						
	5 23 p. m.	30. 20	60	24	30. 12	24	23	86	E.	33	5. 44		0	0	Cumulus	4-4	E.				24	20	
	9 0 p. m.	30. 18	53	23	30. 12	23	22	86	E.	32	5. 12		0	0	Cumulus	3-4	E.						
Friday, Jan. 10	1 23 a. m.	30. 17	52	18	30. 11	18	17	84	E.	36	6. 48		0	0	Cumulus	3-4	E.						
	7 0 a. m.	30. 13	49	15	30. 08	15	14. 5	91	E.	30	4. 50	801	0	0	Cumulus	4-4	E.						
	10 23 a. m.	30. 18	67	14	30. 08	14	13. 5	90	E.	33	5. 44		0	0	Cumulus	4-4	E.						Light snow.
	2 0 p. m.	30. 18	69	14	30. 08	14	13. 5	90	E.	32	5. 12		0	0	Cumulus	4-4	E.						
	5 23 p. m.	30. 15	60	12	30. 07	12	11. 5	90	E.	30	4. 50		0	0	Cumulus	3-4	E.				24	12	
	9 0 p. m.	30. 16	70	12	30. 05	12	11. 5	90	E.	35	6. 12		0	1	Cumulus	3-4	E.						
Saturday, Jan. 11	1 23 a. m.	30. 10	46	12	30. 06	12	11. 5	90	E.	32	5. 12		0	0	Cumulus	4-4	E.						
	7 0 a. m.	30. 16	52	12	30. 10	12	11. 5	90	E.	25	3. 12	791	Hazy		Cumulus	3-4	E.						
	10 23 a. m.	30. 22	69	12	30. 12	12	11	80	E.	21	2. 20		0	0	Cumulus	4-4	E.						
	2 0 p. m.	30. 23	60	13	30. 15	13	12	81	E.	22	2. 42		0	0	Cumulus	1-2	E.						
	5 23 p. m.	30. 25	63	13	30. 16	13	12	81	E.	16	1. 28		0	0	Cumulus	1-2	E.						
	9 0 p. m.	30. 26	61	12	30. 18	12	11. 5	90	E.	15	1. 12		0	0	Cumulus	1-4	E.				14	11	
Sunday, Jan. 12	1 23 a. m.	30. 20	50	13	30. 15	13	12. 5	90	E.	14	. 98		0	0	Cumulus	1-4	E.						
	7 0 a. m.	30. 15	54	15	30. 09	15	14. 5	91	E.	21	2. 20	492	0	0	Cumulus	1-4	E.						
	10 23 a. m.	30. 15	60	17	30. 07	17	16. 5	91	E.	22	2. 42		0	0	Cumulus	1-4	E.						
	2 0 p. m.	30. 12	56	17	30. 05	17	16. 5	91	E.	18	1. 62		0	0	Cumulus	1-2	E.						
	5 23 p. m.	30. 07	58	15	30. 00	15	14. 5	91	E.	21	2. 20		0	0	Cumulus	3-4	E.				17	11	
	9 0 p. m.	30. 03	50	15	29. 95	15	14. 5	91	E.	24	2. 88		0	0	Cumulus	3-4	E.						Aurora.
Monday, Jan. 13	1 23 a. m.	29. 97	48	14	29. 92	14	13. 5	90	E.	43	9. 24		Nimbus.	1-4	Cumulus	3-4	E.	11.10 p. m.					
	7 0 a. m.	29. 88	42	14	29. 85	14	13. 5	90	E.	36	6. 48	680	0	0	Cumulus	4-4	E.						Light snow.
	10 23 a. m.	29. 85	48	14	29. 80	14	13. 5	90	E.	38	7. 22		0	0	Cumulus	3-4	E.			. 01			
	2 0 p. m	29. 86	61	13	29. 78	13	12. 5	90	E.	38	7. 22		Nimbus.	1-4	Cumulus	3-4	E.						
	5 23 p. m.	29. 83	51	13	29. 77	13	12. 5	90	E.	39	7. 60		0	0	Cumulus	4-4	E.				15	12	
	9 0 p. m.	29. 84	56	11	29. 77	11	10. 5	89	E.	35	6. 12		0	0	Cumulus	3-4	E.						

Meteorological record for the five days ending January 18, 1873.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Tuesday, Jan. 14	1 23 a. m.	29.79	46	8	29.75	8	7.5	88	E.	33	5.44	....	0	0	Cumulus.	3-4	E.	....	....	.01	....	....	
	7 0 a. m.	29.75	46	9	29.71	9	8.5	89	E.	34	5.78	888	0	0	Cumulus.	3-4	E.	....	....	....	....	....	
	10 23 a. m.	29.76	58	9	29.69	9	8.5	89	E.	35	6.12	....	0	0	Cumulus.	3-4	E.	....	....	.01	....	....	
	2 0 p. m.	29.70	55	8	29.63	8	7.5	88	E.	37	6.84	....	Nimbus.	1-4	Cumulus.	3-4	E.	....	....	....	....	....	
	5 23 p. m.	29.65	54	7	29.59	7	6.5	88	E.	36	6.48	....	Nimbus.	1-4	Cumulus.	3-4	E.	....	....	.01	13	7	Frozen fog.
	9 0 p. m.	29.63	58	6	29.56	6	5.5	87	E.	35	6.12	....	Nimbus.	1-2	Cumulus.	1-4	E.	....	....	....	....	....	
Wednesday, Jan. 15	1 23 a. m.	29.58	50	6	29.53	6	5.5	87	E.	31	4.80	....	Nimbus.	1-2	Cumulus.	1-2	E.	....	....	.02	....	....	
	7 0 a. m.	29.53	50	6	29.48	6	5.5	87	E.	33	5.44	823	Nimbus.	1-2	Cumulus.	1-4	E.	....	....	....	....	....	
	10 23 a. m.	29.55	64	7	29.46	7	6.5	88	E.	32	5.12	....	0	0	Cumulus.	4-4	E.	....	....	.02	....	....	
	2 0 p. m.	29.53	67	8	29.43	8	7.5	88	E.	40	4.50	....	Nimbus.	4-4	....	....	....	....	....	....	....	....	
	5 23 p. m.	29.52	64	9	29.43	9	8.5	89	E.	27	3.64	....	Nimbus.	1-4	Cumulus.	3-4	E.	....	....	.01	9	5	
	9 0 p. m.	29.51	61	8	29.43	8	7.5	88	E.	24	2.88	....	Nimbus.	1-2	Cumulus.	1-2	E.	....	....	....	....	....	
Thursday, Jan. 16	1 23 a. m.	29.46	48	8	29.41	8	7.5	88	N. E.	27	3.64	....	0	0	Cumulus.	3-4	N. E.	....	....	....	....	....	
	7 0 a. m.	29.43	53	9	29.37	9	8.5	89	N. E.	30	4.50	688	0	0	Cumulus.	1-2	N. E.	....	....	....	....	....	Flurries of snow.
	10 23 a. m.	29.47	66	9	29.38	9	8.5	89	N. E.	24	3.92	....	0	0	Cumulus.	1-4	N. E.	....	....	.01	....	....	
	2 0 p. m.	29.45	60	8	29.37	8	7.5	88	E.	30	4.50	....	Nimbus.	1-4	Cumulus.	1-4	N. E.	....	....	....	....	....	
	5 23 p. m.	29.48	62	6	29.40	6	5.5	87	N. E.	25	3.12	....	0	0	Cumulus.	3-4	N. E.	....	....	.01	9	6	
	9 0 p. m.	29.52	60	5	29.44	5	4.5	87	N. E.	28	3.92	....	0	0	Cumulus.	3-4	N. E.	....	....	....	....	....	
Friday, Jan. 17	1 23 a. m.	29.53	48	−1	29.48	−1	−1.5	84	N. E.	37	6.84	....	Nimbus.	4-4	....	....	....	....	....	.01	....	....	
	7 0 a. m.	29.58	44	−2	29.54	−2	−2.5	83	N. E.	34	5.78	727	Nimbus.	4-4	....	....	....	....	....	....	....	....	Impalp'le snow.
	10 23 a. m.	29.66	56	−3	29.59	−3	−4	65	N. E.	34	5.78	....	Nimbus.	1-4	Cumulus.	1-4	N. E.	....	....	.02	....	....	
	2 0 p. m.	29.70	62	−3	29.62	−3	−4	65	N. E.	33	5.44	....	Nimbus.	1-2	Cumulus.	1-4	N. E.	....	....	....	....	....	
	5 0 p. m.	29.72	62	−4	29.64	−5	−6	64	N. E.	31	4.80	....	0	0	Cumulus.	1-4	N. E.	....	5.10 p. m.	.01	6	−5	Melted snow.
	9 0 p. m.	29.85	68	−6	29.75	−6	−7	61	N. E.	26	3.38	....	0	0	Cumulus.	1-4	N. E.	....	....	....	....	....	
Saturday, Jan. 18	1 23 a. m.	29.85	59	−9	29.80	−9	−10	55	N. E.	22	2.42	....	0	0	Cumulus.	1-4	N. E.	....	....	....	....	....	
	7 0 a. m.	29.90	52	−10	29.84	−10	−11	53	N. E.	19	1.80	694	0	0	Cumulus.	1-4	N. E.	....	....	....	....	....	
	10 23 a. m	29.98	62	−6	29.90	−6	−7	61	N. E.	18	1.62	....	0	0	Cumulus.	1-4	N. E.	....	....	....	....	....	
	2 0 p. m.	30.00	68	−5	29.90	−5	−6	92	N. E.	19	1.80	....	0	0	0	0	....	....	....	....	....	....	
	5 23 p. m.	30.03	60	−5	29.96	−5	−6	62	N. E.	14	.98	....	0	0	Cumulus.	1-4	N. E.	....	....	....	−4	−11	
	9 0 p. m.	30.08	62	−5	29.99	−5	−6	62	N. E.	11	.60	....	0	0	0	0	....	....	....	....	....	....	Aurora.

Meteorological record for the five days ending January 23, 1873.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from)—	Commen'd.	Ended.		Maximum.	Minimum.	
Sunday, Jan. 19	1 23 a. m.	30.12	48	−5	30.07	−5	−6	62	N. E.	10	.50	....	0	0	0	0	0	......	......	...	...	...	
	7 a. m.	30.12	47	−5	30.07	−5	−6	62	N. E.	8	.32	368	0	0	0	0	0	......	......	...	...	...	
	10 23 a. m.	30.20	68	−1	30.10	−1	−2	68	N. E.	7	.24	....	0	0	0	0	0	......	......	...	...	...	
	2 p. m.	30.20	67	5	30.10	5	4	75	E.	6	.18	...	0	0	0	0	0	......	......	...	...	...	
	5 23 p. m.	30.22	64	4	30.13	4	3	74	E.	7	.24	...	0	0	0	0	0	......	......	...	0	−6	
	9 p. m.	30.28	64	9	30.19	9	8.5	69	E.	12	.72	....	0	0	Cumulus	4-4	E.	......	......	...	...	...	
Monday, Jan. 20	1 23 a. m.	30.25	53	10	30.19	10	9.5	69	E.	26	3.38	....	0	0	Cumulus	4-4	E.	9.15 p. m	......	...	...	...	
	7 a. m.	30.24	49	13	30.19	13	12.5	90	E.	30	4.50	327	0	0	Cumulus	4-4	E.	......	......	...	...	...	
	10 23 a. m.	30.24	58	15	30.17	15	14.5	91	E.	30	4.50	....	0	0	Cumulus	4-4	E.	......	Night	.01	...	...	
	2 p. m.	30.23	61	16	30.15	16	15.5	91	E.	27	3.64	....	0	0	Cumulus	3-4	E.	......	......	...	...	...	
	5 23 p. m.	30.20	64	14	30.14	14	13.5	90	E.	33	5.44	....	0	0	Cumulus	4-4	E.	......	......	...	16	4	
	9 p. m.	30.17	60	12	30.09	12	11.5	90	E.	33	5.44	....	0	0	0	0	0	......	......	...	...	...	
Tuesday, Jan. 21	1 23 a. m.	30.13	52	13	30.07	13	12.5	90	E.	34	5.78	....	0	0	Cirrus ..	1-4	S. W.	......	......	...	...	...	Aurora at 10.30 p. m.
	7 a. m.	30.08	46	15	30.04	15	14	82	E.	32	5.12	753	0	0	Cirrus ..	1-2	S. W.	......	......	...	...	...	
	10 23 a. m.	30.11	58	15	30.04	15	14.5	91	E.	31	4.80	....	0	0	Cirrus ..	1-2	S. W.	......	......	...	...	...	
	2 p. m.	30.08	58	15	30.01	15	14.5	91	E.	31	4.80	....	0	0	Cirrus ..	3-4	S. W.	......	......	...	...	...	
	5 23 p. m.	30.10	64	16	30.01	16	15	82	E.	34	5.78	....	0	0	Cirrus ..	3-4	S. W.	......	......	...	16	11	
	9 p. m.	30.10	62	17	30.01	17	16	83	E.	35	6.12	....	0	0	Cirrus ..	1-4	S. W.	......	......	...	...	...	
Wednesday, Jan. 22	1 23 a. m.	30.07	52	15	30.01	15	14	82	E.	28	3.92	....	0	0	Cirrus ..	1-4	S. W.	......	......	...	...	...	
	7 a. m.	30.08	55	15	30.01	15	14.5	91	E.	24	2.88	782	0	0	Cumulus	1-4	S. W.	......	......	...	...	...	
	10 23 a. m.	30.12	63	16	30.03	16	15.5	91	E.	22	2.42	....	0	0	Cirrus ..	1-4	S. W.	......	......	...	...	...	
	2 p. m.	30.12	66	19	30.02	19	18.5	92	E.	20	2.00	....	0	0	Cumulus	4-4	E.	......	......	...	...	...	
	5 23 p. m.	30.12	61	19	30.04	19	18	84	E.	21	2.20	....	0	0	Cumulus	4-4	E.	......	......	...	19	14	
	9 p. m.	30.14	65	20	30.05	20	19	85	E.	25	3.12	....	0	0	Cumulus	1-2	E.	......	......	...	...	...	
Thursday, Jan. 23	1 23 a. m.	30.08	52	19	30.02	19	18	84	E.	27	3.64	....	0	0	0	0	0	......	......	...	...	...	
	7 a. m.	29.97	50	20	29.92	20	19	85	E.	34	5.78	588	0	0	0	0	0	......	......	...	...	...	
	10 23 a. m.	30.02	70	20	29.91	20	19	85	E.	36	6.48	....	0	0	0	0	0	......	......	...	...	...	
	2 p. m.	29.94	61	20	29.86	20	18	70	E.	35	6.12	....	0	0	0	0	0	......	......	...	...	...	
	5 23 p. m.	29.88	62	18	29.79	18	17	84	E.	37	6.84	....	0	0	0	0	0	......	......	...	20	18	
	8 p. m.	29.85	65	19	29.76	19	18	84	E.	32	5.12	....	0	0	0	0 0	0	......	......	...	...	...	Auroral haze.

Meteorological record for the five days ending January 28, 1873.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'd.	Ended.		Maximum.	Minimum.	
Friday, Jan. 24	1 23 a. m.	29. 76	50	18	29. 71	18	17	84	E.	26	3. 38	....	0	0	0	0	0	....	....	....	....	....	
	7 0 a. m.	29. 69	55	14	29. 62	14	13	81	E.	25	3. 12	796	0	0	0	0	0	....	....	....	....	....	
	10 23 a. m.	29. 66	66	15	29. 57	15	14	82	E.	27	3. 64	....	0	0	0	0	0	....	....	....	....	....	
	2 0 p. m.	29. 59	67	15	29. 49	15	14. 5	91	E.	28	3. 92	....	0	0	0	0	0	....	....	....	....	....	
	5 23 p. m.	29. 55	69	15	29. 45	15	14. 5	91	E.	24	2. 88	....	0	0	0	0	0	....	....	....	19	13	
	9 0 p. m.	29. 51	68	15	29. 41	15	14. 5	91	E.	24	2. 88	....	0	0	Cumulus	1-4	E.	....	....	....	....	....	
Saturday, Jan. 25	1 23 a. m.	29. 44	53	14	29. 38	14	13. 5	90	E.	21	2. 20	....	0	0	Cumulus	1-2	E.	....	....	....	....	....	
	7 0 a. m.	29. 41	60	16	29. 33	16	15. 5	91	N. E.	16	1. 28	501	Stratus	4-4	....		....	....	....	....	....	....	
	10 23 a. m.	29. 42	67	16	29. 32	16	15	82	N.	21	2. 20	....	0	0	Cumulus	1-4	N.	....	....	....	....	....	
	2 0 p. m.	29. 43	69	15	29. 33	15	14	82	N.	26	3. 38	....	0	0	0	0	0	....	....	....	....	....	
	5 23 p. m.	29. 50	72	14	29. 39	14	13	81	N.	34	5. 78	....	0	0	0	0	0	....	....	....	16	14	
	9 0 p. m.	29. 55	65	11	29. 46	11	10	79	N.	35	6. 12	....	0	0	0	0	0	....	....	....	....	....	
Sunday, Jan. 26	1 23 a. m.	29. 63	51	6	29. 58	6	5	76	N.	41	8. 40	....	0	0	0	0	0	....	....	....	....	....	
	7 0 a. m.	29. 82	50	0	29. 77	0	−1	69	N.	35	6. 12	684	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	10 23 a. m.	30. 00	66	−1	29. 90	−1	−2	68	N.	30	4. 50	....	0	0	Cumulus	1-4	N.	....	....	....	....	....	
	2 0 p. m.	30. 05	69	0	29. 95	0	−1	69	N.	26	3. 38	....	0	0	0	0	0	....	....	....	....	....	
	5 23 p. m.	30. 11	61	−2	30. 02	−2	−3	67	N.	27	3. 64	....	0	0	Cumulus	1-4	N.	....	....	....	14	−2	
	9 0 p. m.	30. 23	62	−3	30. 14	−3	−4	65	N.	27	3. 64	....	0	0	Cumulus	1-4	N.	....	....	....	....	....	Aurora.
Monday, Jan. 27	1 23 a. m.	30. 27	50	−7	30. 22	−7	−8	59	N.	24	2. 88	....	0	0	0	0	0	....	....	....	....	....	
	7 0 a. m.	30. 40	47	−8	30. 35	−8	−8. 5	79	N. E.	2	. 02	599	0	0	0	0	0	....	....	....	....	....	
	10 23 a. m.	30. 49	63	−4	30. 40	−4	−4. 5	82	N. E.	1	. 01	....	0	0	Cirrus	1-4	N. W.	....	....	....	....	....	
	2 0 p. m.	30. 50	66	8	30. 40	8	7. 5	88	S. E.	9	. 40	....	0	0	Cirrus	4-4	N. W.	....	....	....	....	....	
	5 23 p. m.	30. 46	68	13	30. 36	13	12. 5	90	S. E.	24	2. 88	....	Stratus	4-4	....	....	....	....	....	....	13	−9	
	9 0 p. m.	30. 40	68	21	30. 30	21	21	100	S. E.	34	5. 78	....	Nimbus	4-4	....	....	....	....	....	....	....	....	Heavy snow; aurora.
Tuesday, Jan. 28	1 23 a. m.	30. 42	54	32	30. 35	32	32	100	S.	29	4. 20	....	Stratus	1-2	Cirrus	1-4	....	7.15 p. m.	11.45 p. m.	. 17	....	....	Melted snow.
	7 0 a. m.	30. 53	57	30	30. 46	30	29	89	S.	17	1. 44	420	0	0	0	0	0	....	....	....	....	....	
	10 23 a. m.	30. 59	65	31	30. 49	31	30	89	S.	19	1. 80	...	0	0	Cirrus	1-4	W.	....	....	....	....	....	
	2 0 p. m.	30. 55	68	33	30. 45	33	32	89	S. W.	40	8. 00	....	Stratus	4-4	....	....	....	....	....	....	....	....	
	5 23 p. m.	30. 52	62	33	30. 43	33	32	89	S.	31	4. 80	....	Stratus	4-4	....	....	....	2.40 p. m.	5.40 p. m.	. 01	34	13	Rain.
	9 0 p. m.	30. 53	69	33	30. 42	33	32	89	S. W.	40	8. 00	....	Stratus	4-4	....	....	....	....	....	....	....	....	

Meteorological record for the five days ending February 2, 1873.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Wednesday, Jan. 29.	1 23 a. m.	30. 51	55	33	30. 44	33	32	89	S.W.	41	8. 40			4-4									
	7 0 a. m.	30. 55	50	33	30. 50	33	32	89	S.W.	34	5. 78	763	Hazy		Cumulus	4-4	S.W.						
	10 23 a. m.	30. 57	60	33	30. 49	33	32	89	S.W.	39	7. 60		Hazy		Cumulus	4-4	S.W.						
	2 0 p. m.	30. 57	69	33	30. 46	33	32. 5	94	S.	38	7. 22		Hazy		Cumulus	4-4	S.						
	5 23 p. m.	30. 55	64	33	30. 46	33	32	89	S.	35	6. 12		Hazy		Cumulus	3-4	S.				33	33	
	9 0 p. m.	30. 52	62	32	30. 44	32	31	89	S.	34	5. 78		Hazy		0	0	0						
Thursday. Jan. 30 ..	1 23 a. m.	30. 49	57	31	30. 42	31	30. 5	94	S. E.	20	2. 00		Hazy		Cirrus	1-2	S.						
	7 0 a. m.	30. 41	61	32	30. 33	32	31. 5	94	S.	12	. 72	760	Stratus	1-4	Cirrus	3-4	S.						
	10 23 a. m.	30. 38	69	32	30. 27	32	31	80	S. E.	28	3. 92		Stratus	1-2	Cirrus	1-2	S.						
	2 0 p. m.	30. 23	70	33	30. 12	33	32	89	S. E.	25	3. 12		Stratus	1-2	Cirrus	1-2	S.						
	5 23 p. m.	30. 15	70	33	30. 04	33	32	89	S. E.	25	3. 12		Nimbus	4-4				12.55 p. m.		. 04	34	31	Melted snow.
	9 0 p. m.	30. 07	66	33	29. 96	33	32. 5	94	S. E.	12	. 72		Nimbus	4-4									Light rain.
Friday, Jan. 31.....	1 23 a. m.	29. 99	57	33	29. 92	33	32. 5	94	E.	8	. 32			4-4						. 12			Rain measure.
	7 0 a. m.	29. 91	65	32	29. 82	32	32	100	E.	4	. 08	353	Fog	4-4									
	10 23 a. m.	29. 88	70	32	29. 77	32	32	100	E.	10	. 50		Stratus	4-4						. 13			Melted snow.
	2 0 p. m.	29. 84	69	31	29. 74	31	31	100	E.	14	. 98		Stratus	4-4									
	5 23 p. m	29. 81	68	31	29. 71	31	31	100	E.	15	1. 12		Stratus	4-4						. 14	33	31	
	9 0 p. m.	29. 71	65	30	29. 62	30	30	100	E.	16	1. 28		Fog	4-4									
Saturday, Feb. 1 ...	1 23 a. m.	29. 63	56	31	29. 56	31	30	89	E.	16	1. 28		Stratus	4-4						. 04			Freezing rain.
	7 0 a. m.	29. 55	60	31	29. 47	31	30	89	S.W.	14	. 98	318	0	0	Cumulus	1-4	S.W.						
	10 23 a. m.	29. 56	66	32	29. 47	32	31	89	S.W.	22	2. 42		Nimbus	4-4						. 02			
	2 0 p. m.	29. 53	66	32	29. 44	32	31	89	S.W.	27	3. 64		0	0	Cumulus	4-4	S.W.						Occas'nal snow showers.
	5 23 p. m.	29. 52	63	32	29. 43	32	31	89	S.W.	20	2. 00		0	0	Cumulus	4-4	W.			. 01	33	30	
	9 0 p. m.	29. 58	66	31	29. 49	31	30	89	W.	18	1. 62		Stratus	1-4	Cirrus	1-4	W.						
Sunday, Feb. 2	1 23 a. m.	29. 63	52	28	29. 57	28	27. 5	94	N. W.	16	1. 28		0	0		4-4			Night	. 01			
	7 0 a. m.	29. 63	54	25	29. 57	25	24. 5	93	N.	9	. 40	435	0	0	Cumulus	4-4	N.						
	10 23 a. m.	29. 61	66	25	29. 55	25	24. 5	93	N.	11	. 60		0	0	Cumulus	4-4	N.						
	2 0 p. m.	29. 52	63	22	29. 43	22	22	100	E.	19	1. 80		Stratus	4-4									
	5 23 p. m.	29. 38	68	22	29. 28	22	22	100	E.	33	5. 44		Nimbus	4-4				3.30 p. m.		. 03	32	22	
	9 0 p. m.	29. 27	65	21	29. 18	21	21	100	E.	34	5. 78		Stratus	4-4									

Meteorological record for the five days ending February 7, 1873.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

			THERM.			HYGROM.			WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.			THERM.		
Day and date of observation.	Time of observation.	Barometer.	Attached.	Exposed.	Corrected barometer.	Dry bulb.	Wet bulb.	Relative humidity.	Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.	Amount of rain or melted snow.	Maximum.	Minimum.	Remarks.
Monday, Feb. 3	1 23 a. m.	29.15	54	22	29.09	22	22	100	E.	33	5.44		Nimbus.	4-4						.14			Melted snow.
	7 0 a. m.	29.13	63	23	29.05	23	23	100	E.	21	2.20	673	Nimbus	4-4									Fine rain.
	10 23 a. m.	29.16	68	23	29.06	23	22.5	93	E.	16	1.28		Nimbus	4-4						.17			Rain measure.
	2 0 p. m.	29.16	69	25	29.06	25	24.5	93	N. E.	6	.18		Nimbus.	4-4									Light snow.
	5 23 p. m.	29.17	70	23	29.07	23	22	86	N.	8	.32		0	0	Cumulus	4-4	N. W.			.08	26	21	Melted snow.
	9 0 p. m.	29.24	68	22	29.14	22	21	86	N.	20	2.00		0	0	Cumulus	4-4	N.						
Tuesday, Feb. 4	1 23 a. m.	29.35	48	17	29.30	17	16	83	N.	12	.72		0	0	Cumulus	4-4	N. W.			.02			
	7 0 a. m.	29.42	53	13	29.36	13	12	81	N.	16	1.28	421	0	0	Cumulus	4-4							
	10 23 a. m.	29.47	65	14	29.38	14	13	81	N.	12	.72		0	0	Cumulus	4-4	N.			.01			
	2 0 p. m.	29.48	62	15	29.40	15	14.5	91	N.	4	.08		0	0	Cumulus	4-4	N.						Light snow.
	5 23 p. m.	29.48	68	14	29.38	14	13	81	N.	7	.24		0	0	Cumulus	4-4				.02	23	13	
	9 0 p. m.	29.37	65	15	29.28	15	14.5	91	E.	6	.18		Stratus	4-4									
Wednesday, Feb. 5	1 23 a. m.	29.25	54	20	29.19	20	19.5	92	S. E.	22	2.42		Stratus	4-4						.01			
	7 0 a. m.	29.06	56	28	28.99	28	28	100	S. E.	21	2.20	296	Nimbus	4-4									Heavy snow.
	10 23 a. m.	28.93	64	30	28.84	30	29.5	94	0	0	0		Stratus	4-4						.21			
	2 0 p. m.	29.09	68	20	28.99	20	19	85	N.	31	4.80		0	0	Cumulus	1-2	N.						
	5 23 p. m.	29.15	70	12	29.05	12	11	80	N.	32	5.12		0	0	Cumulus	4-4	N			.02	32	12	
	9 0 p. m.	29.20	70	11	29.10	11	10	79	N.	22	2.42		0	0	Cumulus	3-4	N.						
Thursday, Feb. 6	1 23 a. m.	29.29	52	9	29.23	9	8	78	N.	16	1.28		0	0	Cumulus	4-4	N.			.01			
	7 0 a. m.	29.49	54	8	29.43	8	7	77	N.	11	.60	714	0	0	Cumulus	4-4	N.						Light snow.
	10 23 a. m.	29.60	70	9	29.50	9	7	56	N.	11	.60		0	0	Cumulus	4-4	N.						
	2 0 p. m.	29.65	69	9	29.55	9	8	78	N.	13	.84		0	0	Cumulus	4-4							
	5 23 p. m.	29.69	69	9	29.59	9	8	78	N. E.	14	.98		Stratus	3-4	Cirrus	1-4	N. W.			.03	12	8	
	9 0 p. m.	29.78	64	10	29.69	10	9	79	N. E.	15	1.12		Nimbus	4-4									
Friday, Feb. 7	1 23 a. m.	29.79	50	7	29.74	7	6.5	88	E.	21	2.20		Nimbus	4-4						.17			Melted snow.
	7 0 a. m.	29.87	56	5	29.80	5	4.5	87	E.	28	3.92	375	Nimbus	4-4									
	10 23 a. m.	29.92	59	7	29.84	7	6.5	88	E.	32	5.12		Nimbus	4-4						.16			
	2 0 p. m.	29.85	63	9	29.76	9	8.5	89	E.	34	5.78		Nimbus	4-4									
	5 23 p. m.	29.82	63	10	29.73	10	9.5	89	E.	34	5.78		Nimbus	4-4						.31	10	4	Do.
	9 0 p. m.	29.73	69	12	29.63	12	12	100	E.	33	5.44		Nimbus	4-4									

Meteorological record for the five days ending February 12, 1873.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Saturday, Feb. 8	1 23 a. m.	29.49	50	13	29.44	13	13	100	E.	37	6.84		Nimbus	4-4						.16			Melted snow.
	7 0 a. m.	29.18	57	13	29.11	13	13	100	E.	49	12.10	825	Nimbus	4-4									Heavy snow.
	10 23 a. m.	29.09	63	13	29.01	13	13	100	E.	54	14.58		Nimbus	4-4						.38			Terrific storm.
	2 0 p. m.	28.98	64	13	28.89	13	13	100	E.	82	33.62		Nimbus	4-4									Do.
	5 23 p. m.	28.93	64	13	28.84	13	13	100	E.	61	18.60		Nimbus	4-4						.53	14	10	Do.
	9 0 p. m.	28.95	64	11	28.86	11	10.5	89	E.	52	13.52		Nimbus	4-4									Heavy snow.
Sunday, Feb. 9	1 23 a. m.	28.97	48	7	28.92	7	6	76	N. E.	37	6.84		Nimbus	4-4						.32			
	7 0 a. m.	29.03	47	4	28.99	4	3	74	N. E.	41	8.40	1155	Nimbus	4-4									Fine snow.
	10 23 a. m.	29.11	66	5	29.02	5	4	75	N. E.	46	10.58		Nimbus	1-4	Cirrus ..	1-2	N. W.			.04			
	2 0 p. m.	29.12	61	5	29.04	5	4	75	N. E.	51	13.00		Nimbus	4-4									Do.
	5 23 p. m.	29.18	55	2	29.12	2	1	71	N.	47	11.04		0	0	Cirrus ..	3-4	N. W.			.02	13	2	
	9 0 p. m.	29.30	64	− 4	29.21	− 4	− 5	64	N.	33	5.44		Stratus	1-4	0	0	0						
Monday, Feb. 10	1 23 a. m.	29.35	44	−10	29.31	−10	−11	53	N.	30	4.50		0	0	0	0	0						Light snow.
	7 0 a. m.	29.51	51	−12	29.46	−12	−13	49	N.	28	3.92	828	0	0	0	0	0						
	10 22 a. m.	29.57	67	− 8	29.47	− 8	− 9	57	N.	26	3.38		Nimbus	1-4	0	0	0						Do.
	2 0 p. m	29.59	64	− 8	29.50	− 8	− 9	57	N.	24	2.88		0	0	0	0	0						
	5 23 p. m.	29.65	66	− 8	29.56	− 8	− 9	57	N.	17	1.44		0	0	0	0	0		3.10 p. m.	.00	2	−12	
	9 0 p. m.	29.75	69	− 8	29.65	− 8	− 9	57	N.	21	2.20		0	0	0	0	0						
Tuesday, Feb. 11	1 23 a. m.	29.82	55	− 7	29.75	− 7	− 8	59	N.	20	2.00		0	0	Cumulus	1-4	N.						
	7 0 a. m	29.95	47	− 4	29.90	− 4	− 5	64	N.	18	1.62	568	0	0	Cumulus	4-4	N.						
	10 23 a. m.	30.02	64	− 3	29.93	− 3	− 4	65	N.	21	2.20		0	0	Cumulus	3-4	N.						
	2 0 p. m.	30.05	68	− 2	29.95	− 2	− 3	67	N.	21	2.20		0	0	Cumulus	1-4	N.						
	5 23 p. m.	30.09	68	− 5	29.99	− 5	− 6	62	N.	23	2.64		0	0	0	0	0				− 3	− 8	
	9 0 p. m.	30.12	68	− 8	30.02	− 8	− 9	57	N.	16	1.28		0	0	0	0	0						
Wednesday, Feb. 12	1 21 a. m.	30.09	48	−10	30.04	−10	−11	54	N.	16	1.28		0	0	0	0	0						
	7 0 a. m.	30.12	46	−10	30.08	−10	−11	53	N.	18	1.62	412	0	0	0	0	0						
	10 23 a. m.	39.20	69	− 8	30.10	− 8	− 9	57	N.	17	1.44		0	0	Cumulus	1-4	N.						
	2 0 p. m.	30.23	70	− 7	30.12	− 7	− 8	59	N.	13	,84		0	0	Cumulus	1-4	N.						
	5 23 p. m.	30.23	67	− 8	30.13	− 8	− 9	57	N.	12	,72		0	0	Cumulus	1-4	N.				− 8	−11	
	9 0 p. m.	30.25	66	− 8	30.15	− 8	− 9	57	N.	23	2.64		0	0	0	0	0						

Meteorological record for the five days ending February 7, 1873.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Monday, Feb. 3	1 23 a. m.	29. 15	54	22	29. 09	22	22	100	E.	33	5. 44	....	Nimbus	4-4	....	....	......	....	....	. 14	...	...	Melted snow.
	7 0 a. m.	29. 13	63	23	29. 05	23	23	100	E.	21	2. 20	673	Nimbus	4-4	....	....	......	....	....	...	...	...	Fine rain.
	10 23 a. m.	29. 16	68	23	29. 06	23	22. 5	93	E.	16	1. 28	....	Nimbus	4-4	....	....	......	....	....	. 17	...	...	Rain measure.
	2 0 p. m.	29. 16	69	25	29. 06	25	24. 5	93	N. E.	6	. 18	...	Nimbus	4-4	....	....	......	....	....	...	...	...	Light snow.
	5 23 p. m.	29. 17	70	23	29. 07	23	22	86	N.	8	. 32	....	0	0	Cumulus	4-4	N. W.	....	....	. 08	26	21	Melted snow.
	9 0 p. m.	29. 24	68	22	29. 14	22	21	86	N.	20	2. 00	....	0	0	Cumulus	4-4	N.	....	....	...	...	...	
Tuesday, Feb. 4	1 23 a. m.	29. 35	48	17	29. 30	17	16	83	N.	12	. 72	....	0	0	Cumulus	4-4	N. W.	....	....	. 02	...	...	
	7 0 a. m.	29. 42	53	13	29. 36	13	12	81	N.	16	1. 28	421	0	0	Cumulus	4-4	......	....	....	...	...	...	
	10 23 a. m.	29. 47	65	14	29. 38	14	13	81	N.	12	. 72	....	0	0	Cumulus	4-4	N.	....	....	. 01	...	...	
	2 0 p. m.	29. 48	62	15	29. 40	15	14. 5	91	N.	4	. 08	....	0	0	Cumulus	4-4	N.	....	....	...	...	...	Light snow.
	5 23 p. m.	29. 48	68	14	29. 38	14	13	81	N.	7	. 24	...	0	0	Cumulus	4-4	......	....	....	. 02	23	13	
	9 0 p. m.	29. 37	65	15	29. 28	15	14. 5	91	E.	6	. 18	....	Stratus	4-4	....	....	......	....	....	...	...	...	
Wednesday, Feb. 5	1 23 a. m.	29. 25	54	20	29. 19	20	19. 5	92	S. E.	22	2. 42	...	Stratus	4-4	....	....	......	....	....	. 01	...	...	
	7 0 a. m.	29. 06	56	28	28. 99	28	28	100	S. E.	21	2. 20	296	Nimbus	4-4	....	....	......	....	....	...	...	...	Heavy snow.
	10 23 a. m.	28. 93	64	30	28. 84	30	29. 5	94	0	0	0	....	Stratus	4-4	....	....	......	....	....	. 21	...	...	
	2 0 p. m.	29. 09	68	20	28. 99	20	19	85	N.	31	4. 80	....	0	0	Cumulus	1-2	N.	....	....	...	...	...	
	5 23 p. m.	29. 15	70	12	29. 05	12	11	80	N.	32	5. 12	....	0	0	Cumulus	4-4	N	....	....	. 02	32	12	
	9 0 p. m.	29. 20	70	11	29. 10	11	10	79	N.	22	2. 42	....	0	0	Cumulus	3-4	N.	....	....	...	...	...	
Thursday, Feb. 6	1 23 a. m.	29. 29	52	9	29. 23	9	8	78	N.	16	1. 28	....	0	0	Cumulus	4-4	N.	....	....	. 01	...	...	
	7 0 a. m.	29. 49	54	8	29. 43	8	7	77	N.	11	. 60	714	0	0	Cumulus	4-4	N.	....	....	...	...	...	Light snow.
	10 23 a. m.	29. 60	70	9	29. 50	9	7	56	N.	11	. 60	....	0	0	Cumulus	4-4	N.	....	....	...	...	...	
	2 0 p. m.	29. 65	69	9	29. 55	9	8	78	N.	13	. 84	....	0	0	Cumulus	4-4	......	....	....	...	...	...	
	5 23 p. m.	29. 69	69	9	29. 59	9	8	78	N. E.	14	. 98	....	Stratus	3-4	Cirrus	1-4	N. W.	....	....	. 03	12	8	
	9 0 p. m.	29. 78	64	10	29. 69	10	9	79	N. E.	15	1. 12	....	Nimbus	4-4	....	....	......	....	....	...	...	...	
Friday, Feb. 7	1 23 a. m.	29. 79	50	7	29. 74	7	6. 5	88	E.	21	2. 20	...	Nimbus	4-4	....	....	......	....	....	. 17	...	...	Melted snow.
	7 0 a. m.	29. 87	56	5	29. 80	5	4. 5	87	E.	28	3. 93	375	Nimbus	4-4	....	....	......	....	....	...	...	...	
	10 23 a. m.	29. 92	59	7	29. 84	7	6. 5	88	E.	32	5. 12	....	Nimbus	4-4	....	....	......	....	....	. 16	...	...	
	2 0 p. m.	29. 85	63	9	29. 76	9	8. 5	89	E.	34	5 78	....	Nimbus	4-4	....	....	......	....	....	...	...	...	
	5 23 p. m.	29. 82	63	10	29. 73	10	9. 5	89	E.	34	5. 78	...	Nimbus	4-4	....	....	......	....	....	. 31	10	4	Do.
	9 0 p. m.	29. 73	69	12	29. 63	12	12	100	E.	33	5. 44	....	Nimbus	4-4	....	....	......	....	....	...	...	...	

Meteorological record for the five days ending February 12, 1873.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction (moving from—)	Comment'd.	Ended.		Maximum.	Minimum.	
Saturday, Feb. 8	1 23 a. m.	29.49	50	13	29.44	13	13	100	E.	37	6.84	...	Nimbus	4-4	....	....	....	....	....	.16	....	....	Melted snow.
	7 0 a. m.	29.18	57	13	29.11	13	13	100	E.	49	12.00	825	Nimbus	4-4	....	....	....	....	....	....	....	....	Heavy snow.
	10 23 a. m.	29.09	63	13	29.01	13	13	100	E.	54	14.58	....	Nimbus	4-4	....	....	....	....	....	.38	....	...	Terrific storm.
	2 0 p. m.	28.98	64	13	28.89	13	13	100	E.	82	33.62	....	Nimbus	4-4	....	...	....	....	....	....	....	....	Do.
	5 23 p. m.	28.93	64	13	28.84	13	13	100	E.	61	18.60	....	Nimbus	4-4	....	....	....	....	....	.53	14	10	Do.
	9 0 p. m.	28.95	64	11	28.86	11	10.5	89	E.	52	13.52	....	Nimbus	4-4	....	....	....	....	....	....	....	....	Heavy snow.
Sunday, Feb. 9	1 23 a. m.	28.97	48	7	28.92	7	6	76	N. E.	37	6.84	...	Nimbus	4-4	....	....	....	....	....	.32	....	....	
	7 0 a. m.	29.03	47	4	28.99	4	3	74	N. E.	41	8.40	1155	Nimbus	4-4	....	....	....	....	....	....	....	....	Fine snow.
	10 23 a. m.	29.11	66	5	29.02	5	4	75	N. E.	46	10.58	....	Nimbus	1-4	Cirrus ..	1-2	N. W.	....	....	.04	....	....	
	2 0 p. m.	29.12	61	5	29.04	5	4	75	N. E.	51	13.00	....	Nimbus	4-4	....	....	....	....	....	....	....	....	Do.
	5 23 p. m.	29.18	55	2	29.12	2	1	71	N.	47	11.04	...	0	0	Cirrus ..	3-4	N. W.	....	....	.02	13	2	
	9 0 p. m.	29.30	64	− 4	29.21	− 4	− 5	04	N.	33	5.44	....	Stratus	1-4	0	0	0	....	....	....	....	....	
Monday, Feb. 10	1 23 a. m.	29.35	44	−10	29.31	−10	−11	53	N.	30	4.50	...	0	0	0	0	0	....	....	....	....	....	Light snow.
	7 0 a. m.	29.51	51	−12	29.46	−12	−13	49	N.	28	3.92	828	0	0	0	0	0	....	....	....	....	....	
	10 22 a. m.	29.57	67	− 8	29.47	− 8	− 9	57	N.	26	3.38	...	Nimbus	1-4	0	0	0	....	....	....	....	....	Do.
	2 0 p. m	29.59	64	− 8	29.50	− 8	− 9	57	N.	24	2.88	....	0	0	0	0	0	....	....	....	....	....	
	5 23 p. m.	29.65	66	− 8	29.56	− 8	− 9	57	N.	17	1.44	....	0	0	0	0	0	....	3.10 p. m.	.00	2	−12	
	9 0 p. m.	29.75	69	− 8	29.65	− 8	− 9	57	N.	21	2.20	....	0	0	0	0	0	....	....	....	....	....	
Tuesday, Feb. 11	1 23 a. m.	29.82	55	− 7	29.75	− 7	− 8	59	N.	20	2.00	....	0	0	Cumulus	1-4	N.	....	....	....	....	....	
	7 0 a. m.	29.95	47	− 4	29.90	− 4	− 5	64	N.	18	1.62	568	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	10 23 a. m.	30.02	64	− 3	29.93	− 3	− 4	65	N.	21	2.20	....	0	0	Cumulus	3-4	N.	....	....	....	....	....	
	2 0 p. m.	30.05	68	− 2	29.95	− 2	− 3	67	N.	21	2.20	....	0	0	Cumulus	1-4	N.	....	....	....	....	....	
	5 23 p. m.	30.09	68	− 5	29.99	− 5	− 6	62	N.	23	2.64	....	0	0	0	0	0	....	....	....	− 3	− 8	
	9 0 p. m.	30.12	68	− 8	30.02	− 8	− 9	57	N.	16	1.28	....	0	0	0	0	0	....	....	....	....	....	
Wednesday, Feb. 12	1 23 a. m.	30.09	48	−10	30.04	−10	−11	53	N.	16	1.28	....	0	0	0	0	0	....	....	....	....	....	
	7 0 a. m.	30.12	46	−10	30.08	−10	−11	53	N.	18	1.62	412	0	0	0	0	0	....	....	....	....	....	
	10 23 a. m.	39.20	69	− 8	30.10	− 8	− 9	57	N.	17	1.44	....	0	0	Cumulus	1-4	N.	....	....	....	....	....	
	2 0 p. m.	30.23	70	− 7	30.12	− 7	− 8	59	N.	13	.84	....	0	0	Cumulus	1-4	N.	....	....	....	....	....	
	5 23 p. m.	30.23	67	− 8	30.13	− 8	− 9	57	N.	12	.72	....	0	0	Cumulus	1-4	N.	....	....	....	− 8	−11	
	9 0 p. m.	30.25	66	− 8	30.15	− 8	− 9	57	N.	23	2.64	....	0	0	0	0	0	....	....	...	...	....	

Meteorological record for the five days ending February 17, 1873.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Thursday, Feb. 13	1 23 a. m.	30.22	42	—8	30.19	—8	—9	57	N.	15	1.12	....	0	0	0	0	0	....	....	....	....	....	
	7 0 a. m.	30.25	43	—8	30.22	—8	—9	57	N.	16	1.28	310	0	0	0	0	0	....	....	....	....	....	
	10 23 a. m.	30.35	69	—5	30.24	—5	—6	62	N. W.	14	.98	....	0	0	0	0	0	....	....	....	....	....	
	2 0 p. m.	30.33	68	—1	30.23	—1	—1.5	84	N. W.	9	.40	....	0	0	Cumulus	3-4	N. W.	....	....	....	....	....	
	5 23 p. m.	30.32	66	0	30.22	0	—0.5	85	E.	1	.01	....	0	0	Cirrus ..	4-4	N. W.	4.10 p. m.	....	....	1	—8	
	9 0 p. m.	30.28	58	0	30.20	0	—0.5	85	E.	11	.60	....	Nimbus.	4-4	....	....	....	....	....	....	....	....	
Friday, Feb. 14	1 23 a. m.	30.19	41	1	30.16	1	1	100	E.	20	2.00	....	Nimbus.	4-4	....	....	....	....	....	.08	....	....	Melted snow.
	7 0 a. m.	30.13	44	1	30.09	1	1	100	E.	28	3.92	323	Nimbus.	4-4	....	....	....	....	....	....	....	....	Light snow.
	10 23 a. m.	30.17	65	2	30.08	2	2	100	E.	31	4.80	....	0	0	Cirrus ..	3-4	S. W.	....	....	.03	....	....	
	2 0 p. m.	30.08	68	5	29.98	5	5	100	E.	33	5.44	....	0	0	Cirrus ..	3-4	S. W.	....	....	....	....	....	
	5 23 p. m.	29.98	66	3	29.88	3	2.5	86	E.	38	7.22	....	Nimbus	1-4	Cirrus ..	3-4	S. W.	....	....	.05	5	—1	
	9 0 p. m.	29.85	63	6	29.76	6	6	100	E.	42	8.82	....	Nimbus.	4-4	....	....	....	....	....	....	....	....	
Saturday, Feb. 15	1 23 a. m.	29.56	48	10	29.51	10	10	100	E.	66	21.75	....	Nimbus.	4-4	....	....	....	....	....	.11	....	....	
	7 0 a. m.	29.18	46	14	29.14	14	13.5	90	E.	49	12.00	923	Nimbus.	4-4	....	....	....	....	....	....	....	....	Heavy snow.
	10 23 a. m.	29.05	58	17	28.98	17	17	100	E.	46	10.58	....	Nimbus.	4-4	....	....	....	....	....	....	....	....	
	2 0 p. m.	28.84	69	21	28.74	21	20.5	92	E.	32	5.12	....	Nimbus	4-4	....	....	....	....	....	.08	....	....	
	5 23 p. m.	28.79	65	31	28.70	31	30	89	S. W.	68	23.13	....	Nimbus.	1-2	Cirrus ..	1-2	S.	....	....	.12	31	3	Melted snow.
	9 0 p. m.	28.93	63	31	28.85	31	30	89	S. W.	52	13.52	....	Nimbus	4-4	....	....	....	....	....	....	....	....	
Sunday, Feb. 16	1 23 a. m.	29.03	55	30	28.97	30	29	89	S. W.	33	5.44	....	....	4-4	....	....	....	....	....	.19	....	....	
	7 0 a. m.	29.16	53	31	29.10	31	30	89	S. W.	26	3.38	999	Stratus	1-2	Cumulus	1-4	S. W.	....	....	....	....	....	Snow flurries.
	10 23 a. m.	29.20	65	33	29.11	33	32	89	S. W.	18	1.62	....	Stratus	3-4	Cirrus ..	1-4	S. W.	....	....	.05	....	....	
	2 0 p. m.	29.23	68	34	29.13	34	33	89	S. W.	14	.98	....	Stratus	1-2	Cirrus ..	1-2	S. W.	....	....	....	....	....	Threatening.
	5 23 p. m.	29.18	73	31	29.07	31	30.5	94	S. E.	21	2.20	....	Nimbus	4-4	....	....	....	....	....	.03	34	29	
	9 0 p. m.	29.02	70	33	28.92	33	32.5	94	S. E.	18	1.62	....	Nimbus	4-4	....	....	....	....	....	....	....	....	Rain.
Monday, Feb. 17	1 23 a. m.	28.86	58	33	28.79	33	33	100	S. E.	22	2.42	....	Nimbus.	4-4	....	....	....	....	....	.11	....	....	Melted snow and rain.
	7 0 a. m.	28.64	62	32	28.56	32	32	100	S. E.	23	2.64	522	Nimbus.	4-4	....	....	....	....	....	....	....	....	Rain.
	10 23 a. m.	28.54	65	32	28.45	32	31.5	94	S. E.	17	1.44	....	Nimbus.	4-4	....	....	....	....	....	.07	....	....	Melted snow and rain.
	2 0 p. m.	28.54	69	30	28.44	30	29	89	W.	42	8.82	....	0	0	Cumulus	3-4	W.	....	....	....	....	....	Light snow.
	5 23 p. m.	28.65	67	27	28.56	27	26	88	S. W.	34	5.78	....	Nimbus.	1-4	Cumulus	3-4	S. W.	....	....	.13	33	27	
	9 0 p. m.	28.76	66	27	28.67	27	26	88	S. W.	23	2.64	....	0	0	Cumulus	1-2	S. W.	....	....	....	....	....	

Meteorological record for the five days ending February 22, 1873.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Tuesday, Feb. 18	1 23 a. m.	28.85	56	25	28.78	25	24	87	S.W.	25	3.12	....	0	0	Cumulus	3-4	S.W.	....	....	.04	....	....	Melted snow.
	7 0 a. m.	29.03	61	25	28.95	25	24	87	S.W.	22	2.42	626	Stratus	1-4	Cumulus	1-4	S.W.	....	....	....	....	....	Flurries of hail and snow.
	10 23 a. m.	29.11	70	27	29.01	27	26	88	S.W.	28	3.92	....	0	0	0	0	0	....	....	.02	....	....	
	2 0 p. m.	29.16	69	28	29.06	28	27	88	S.W.	24	2.88	....	Stratus	1-4	Cumulus	1-2	S.W.	....	....	....	....	....	
	5 23 p. m.	29.20	68	27	29.10	27	26	88	S.W.	22	2.42	....	Nimbus	1-4	Cumulus	3-4	S.W.	....	....	.02	29	24	
	9 0 p. m.	29.24	67	25	29.14	25	24	87	S.W.	21	2.20	....	0	0	Cumulus	1-4	S.W.	....	9.20 p. m.	.01	....	....	
Wednesday, Feb. 19	1 23 a. m.	29.20	54	25	29.14	25	24.5	93	S.	5	.12	....	0	0	Cumulus	3-4	......	....	....	....	....	....	
	7 0 a. m.	28.93	56	29	28.86	29	29	100	S.E.	44	9.68	459	Stratus	4-4	....	....	......	....	....	....	....	....	
	10 23 a. m.	28.76	70	29	28.66	29	29	100	S.E.	71	25.25	....	Nimbus	4-4	....	....	......	9.20 a. m.	....	.05	....	....	Melted snow.
	2 0 p. m.	28.42	71	30	28.32	30	30	100	S.E.	35	6.12	....	Nimbus	4-4	....	....	......	....	....	....	....	....	Heavy snow.
	5 23 p. m.	28.36	69	30	28.26	30	29.5	94	S.	21	2.20	....	Stratus	1-2	Cirrus	1-2	S.	....	....	.31	31	24	
	9 0 p. m.	28.40	64	29	28.31	29	28	88	S.W.	26	3.38	....	Nimbus	3-4	Cumulus	1-4	S.W.	....	....	....	....	....	
Thursday, Feb. 20	1 23 a. m.	28.48	55	28	28.42	28	27	88	W.	19	1.80	...	0	0	....	4-4	......	....	....	.03	....	....	
	7 0 a. m.	28.64	66	29	28.55	29	28	88	W.	23	2.64	401	0	0	Cumulus	1-2	W.	....	....	....	....	....	
	10 23 a. m.	28.73	62	28	28.65	28	27	88	W.	32	5.12	....	0	0	Cumulus	4-4	W.	....	....	....	....	....	
	2 0 p. m.	28.91	66	27	28.82	27	26	88	W.	27	3.64	....	0	0	Cumulus	4-4	W.	....	....	....	....	....	
	5 23 p. m.	29.11	68	25	29.01	25	24	87	W.	28	3.92	....	Stratus	1-2	Cirrus	1-2	W.	....	....	.01	30	25	
	9 0 p. m.	29.28	67	25	29.18	25	24	87	W.	31	4.80	....	0	0	0	0	0	....	....	....	....	....	Auroral glow.
Friday, Feb. 21	1 23 a. m.	29.33	57	27	29.26	27	26	88	S.W.	15	1.12	....	Stratus	1-4	Cumulus	1-4	S.W.	....	....	.02	....	....	
	7 0 a. m.	29.46	68	28	29.36	28	27	88	S.W.	39	7.60	568	0	0	Cumulus	3-4	S.W.	....	....	....	....	....	
	10 23 a. m.	29.54	69	28	29.44	28	27	88	S.W.	31	4.80	....	0	0	Cumulus	1-4	S.W.	....	....	.01	....	....	
	2 0 p. m.	29.62	72	28	29.51	28	27	88	S.W.	37	6.84	....	0	0	Cumulus	1-4	S.W.	....	....	....	....	....	
	5 23 p. m.	29.76	66	28	29.66	28	27	88	S.W.	43	9.24	....	Stratus	1-4	Cumulus	1-4	S.W.	....	5.00 p. m.	.07	29	25	Melted snow.
	9 0 p. m.	29.95	65	30	29.86	30	29.5	94	S.W.	38	7.22	....	0	0	Cumulus	1-4	S.W.	....	....	....	....	....	
Saturday, Feb. 22	1 23 a. m.	30.14	56	30	30.07	33	32.5	94	S.W.	28	3.92	....	Nimbus	4-4	....	....	......	11.50 p. m.	....	.03	....	....	Rain measure.
	7 0 a. m.	30.22	70	33	30.11	33	32.5	94	S.W.	35	6.12	858	Stratus	1-2	Cirrus	1-2	S.W.	....	....	....	....	....	Rain.
	10 23 a. m.	30.27	70	33	30.16	33	32	89	S.W.	37	6.84	....	Stratus	1-2	Cirrus	1-2	S.W.	....	7.10 a. m.	.16	....	....	
	2 0 p. m.	30.34	70	33	30.23	33	32	89	S.W.	35	6.12	....	Haze	....	0	0	0	....	....	....	....	....	
	5 23 p. m.	30.45	68	32	30.35	33	31.5	94	S.W.	31	4.80	...	0	0	0	0	0	....	....	....	34	28	
	9 0 p. m.	30.51	69	32	30.40	32	31.5	94	S.	22	2.42	....	Haze	....	0	0	0	....	....	....	....	....	Aurora.

Meteorological record for the five days ending February 27, 1873.

— STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'd.	Ended.		Maximum.	Minimum.	
Sunday, Feb. 23	1 23 a. m.	30. 42	59	27	30. 34	27	26. 5	94	S.	8	. 32	...	0	0	Cirrus ..	1-2	...	...	...	...	...	...	
	7 0 a. m.	30. 24	70	29	30. 13	29	28. 5	94	E.	39	7. 60	582	0	0	Cirrus ..	4-4	...	9.10 a. m.	...	...	...	...	
	10 23 a. m.	30. 07	68	29	29. 27	29	29	100	E.	40	8. 00	...	Nimbus.	4-4	...	...	...	...	...	. 08	...	...	Melted snow.
	2 0 p. m.	29. 85	63	29	29. 76	29	29	100	E.	41	8. 40	...	Stratus	4-4	...	...	...	...	...	...	...	...	
	5 23 p. m.	29. 74	71	30	29. 63	30	30	100	E.	36	6. 48	...	Nimbus.	4-4	...	...	...	...	...	. 14	32	26	Melted snow and rain.
	9 0 p. m.	29. 72	70	31	29. 62	31	31	100	E.	16	1. 28	...	Fog.....	4-4	...	...	...	...	...	...	...	...	
Monday, Feb. 24	1 23 a. m.	29. 80	61	31	29 72	31	31	100	S.	4	. 08	...	Nimbus	4-4	...	...	...	...	...	. 22	...	...	Rain measure.
	7 0 a. m.	30. 00	70	32	29. 89	32	31. 5	94	W.	2	. 02	464	Fog.....	4-4	...	...	...	...	...	...	...	...	Light rain.
	10 23 a. m.	30. 08	70	33	29. 97	33	33	100	W.	13	1. 12	...	Fog ...	4-4	...	...	...	...	7.30 a. m.	. 02	...	...	
	2 0 p. m.	30. 16	71	32	30. 05	32	31. 5	94	W.	18	1. 62	...	Stratus .	4-4	...	...	...	...	...	...	33	30	
	5 23 p. m	30. 23	69	32	30. 13	32	31. 5	94	W.	10	. 50	...	Stratus .	4-4	...	...	...	...	...	...	...	...	
	9 0 p. m.	30. 23	63	30	30. 14	30	29. 5	94	S. E.	6	. 18	...	0	0	Cirrus ..	1-4	...	...	...	...	...	...	
Tuesday, Feb. 25	1 23 a. m.	30. 18	59	32	30. 10	32	32	100	S. E.	16	1. 28	...	0	0	Cirrus ..	1 4	...	...	...	...	...	...	
	7 0 a. m.	30. 06	63	33	29. 97	33	32. 5	94	S.	23	2. 64	323	Nimbus.	4-4	...	...	...	...	...	...	...	...	Rain.
	10 23 a. m.	30. 07	69	33	29. 97	33	32. 5	94	S.	31	4. 80	...	Stratus .	4.4	...	...	...	Night...	8.50 a. m.	. 13	...	...	Rain measure.
	2 0 p. m.	30. 15	67	34	30. 05	34	33	89	W.	24	2. 88	...	0	0	0	0	0	...	...	...	...	...	
	5 23 p. m.	30. 21	66	32	30. 11	32	31. 5	94	W.	22	2. 42	...	0	0	Cumulus	1-4	W.	...	...	...	34	29	
	9 0 p. m.	30. 31	67	31	30. 21	31	30	89	W.	24	2. 88	...	0	0	Cumulus	1 4	W.	...	...	...	...	...	
Wednesday, Feb. 26	1 23 a. m.	30. 35	57	31	30. 28	31	30	89	W.	22	2. 42	...	0	0	Cumulus	1-4	W.	...	...	...	...	...	
	7 0 a. m.	30. 42	66	31	30. 32	31	30	89	W.	26	3. 38	579	0	0	Cumulus	1-4	W.	...	...	...	...	...	
	10 23 a. m.	30. 45	71	31	30. 34	31	30	89	W	27	3. 64	...	0	0	0	0	0	D'g night	D'g night	. 02	...	...	
	2 0 p. m.	30. 44	69	32	30. 33	32	31	89	S.W.	28	3. 92	...	0	0	Cirrus ..	1-2	W.	...	...	...	...	...	
	5 23 p. m.	30. 37	65	32	30. 27	32	31	89	S.	29	4. 20	...	Nimbus.	4-4	...	...	...	3.40 p. m.	...	. 02	33	30	
	9 0 p. m.	30. 26	64	31	30. 17	31	30. 5	94	S.	18	1. 62	...	Nimbus.	4-4	...	...	...	...	...	...	...	...	Heavy snow; aurora.
Thursday, Feb. 27	1 23 a. m.	30. 16	62	31	30. 07	31	30. 5	94	S.W.	8	. 32	...	Nimbus.	4-4	...	...	...	...	...	. 23	...	...	Melted snow.
	7 0 a. m.	29. 94	63	27	29. 85	27	26	88	N. W.	26	3. 38	414	0	0	Cumulus	4-4	N. W.	...	...	...	...	...	
	10 23 a. m	29. 97	69	26	29 87	26	25	87	N. W.	21	2. 20	...	0	0	Cumulus	4-4	N. W.	...	Night...	. 09	...	...	
	2 0 p. m.	29. 99	70	27	29. 88	27	26	88	N. W.	33	5. 44	...	0	0	Cumulus	1-4	N. W.	...	...	...	...	...	
	5 23 p. m.	30. 00	69	25	29. 90	25	24	87	N W.	27	3. 64	...	0	0	0	0	0	...	...	...	32	24	
	9 0 p. m.	29. 99	68	25	29. 89	25	24	87	N.	45	10. 12	...	Nimbus	4-4	...	...	...	...	...	...	...	...	Heavy snow.

Meteorological record for the five days ending March 4, 1873.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction (moving from—)	Comment'd.	Ended.		Maximum.	Minimum.	
Friday, Feb. 28.	1 23 a. m.	29.98	57	24	29.91	24	23	86	N.	30	4.50	....	Nimbus	4-4	....	...	......	8.50 a. m.	....	.09	....	....	Melted snow.
	7 0 a. m.	30.02	71	22	29.91	22	21	86	N.	38	7.22	722	Nimbus	1-2	Cumulus	1-2	N.	....	....	....	....	....	Light snow.
	10 23 a. m.	30.02	68	21	29.92	21	20	85	N.	37	6.84	....	Nimbus	3-4	Cumulus	1-4	N.	....	....	.05	....	....	
	2 0 p. m.	30.04	71	20	29.93	20	19	85	N.	42	8.82	....	Nimbus.	3-4	Cumulus	1-4	N.	....	....	....	....	....	
	5 23 p. m.	30.11	65	16	30.02	16	15	82	N. W.	35	6.12	...	0	0	Cumulus	4-4	N. W.	....	....	.04	25	16	
	9 0 p. m.	30.11	63	15	30.02	15	14	82	N.	35	6.12	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
Saturday, Mar. 1...	1 23 a. m.	30.07	55	15	30.00	15	14	82	N.	27	3.64	...	0	0	Cumulus	4-4	N.	....	9.20 a. m.	.02	....	....	
	7 0 a. m.	30.03	62	16	29.94	16	15	82	N. W.	24	2.88	821	0	0	Cumulus	4-4	N. W.	....	....	....	....	....	Do.
	10 23 a. m.	30.02	61	14	29.94	14	13	81	N. W.	26	3.38	...	0	0	Cumulus	4-4	N. W.	....	....	...	....	....	
	2 0 p. m.	30.04	61	10	29.95	10	8	58	N.	26	3.38	....	0	0	Cumulus	3-4	N.	....	....	....	....	....	
	5 23 p. m.	30.09	63	5	30.00	5	3	50	N.	24	2.88	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	9 0 p. m.	30.14	68	3	30.01	3	2	73	N.	19	1.80	..	0	0	Cumulus	3-4	N.	....	....	....	16	5	
Sunday, Mar. 2.....	1 23 a. m.	30.15	54	−2	30.09	−2	−3	67	N.	20	2.00	....	0	0	Cumulus	1-4	N.	....	....	....	....	....	
	7 0 a. m.	30.21	55	−5	30.14	−5	−6	62	N.	29	4.20	583	0	0	0	0	0	....	....	....	....	....	
	10 23 a. m.	30.31	70	−3	30.20	−3	−4	65	N.	31	4.80	....	0	0	Cumulus	3-4	N.	10.05 a. m.	10.30 a. m.	.00	....	....	Snow inappreciable.
	2 0 p. m.	30.33	71	−2	30.22	−2	−3	67	N.	28	3.92	....	0	0	Cumulus	3-4	N.	....	....	....	....	....	
	5 23 p. m.	30.37	66	−3	20.27	−3	−4	65	N.	27	3.64	....	0	0	Cumulus	1-2	N.	....	....	....	−1	−7	
	9 0 p. m.	30.41	66	−1	30.31	−1	−2	68	N.	25	3.12	....	0	0	Cumulus	1-4	N.	....	....	....	....	....	
Monday, Mar. 3....	1 23 a. m.	30.37	52	−1	30.31	−1	−2	68	N.	20	2.00	....	0	0	0	0	0	....	....	....	....	....	
	7 0 a. m.	30.38	61	−1	30.30	−1	−2	68	N. E.	8	.32	541	0	0	0	0	0	....	....	....	....	....	
	10 23 a. m.	30.40	69	4	30.29	4	3	74	N.	6	.18	....	0	0	0	0	0	....	....	....	....	....	
	2 0 p. m.	30.36	70	10	30.25	10	9	79	E.	3	.04	....	0	0	Cirrus ..	3-4	N. W.	....	....	....	....	....	
	5 23 p. m.	30.31	64	11	30.22	[illegible]	10	79	E.	1	.01	...	Stratus..	1-2	Cirrus ..	1-2	N. W.	....	....	....	11	−3	
	9 0 p. m.	30.19	64	13	30.10	13	12.5	90	S. E.	10	.50	....	0	0	Cirrus ..	4-4	N. W.	....	....	....	....	....	
Tuesday Mar. 4....	1 23 a. m.	30.11	56	19	30.01	19	18.5	92	S. E.	14	.98	....	0	0	Cirrus ..	4-4	......	11.20 p. m.	11.50 p. m.	.02	....	..	Melted snow.
	7 0 a. m	30.04	65	27	29.95	27	26	88	N. W.	18	1.62	253	0	0	0	0	0	....	....	....	....	....	
	10 23 a. m.	30.02	64	29	29.93	29	28	88	N. W	20	2.00	...	Stratus .	1-2	Cirrus ..	1-4	N. W.	10.05 a. m.	....	.01	....	....	
	2 0 p. m.	30.00	65	31	29.91	31	29	78	N. W.	16	1.28	..	0	0	Cumulus	1-4	N. W.	....	....	....	....	....	
	5 23 p. m.	30.01	63	29	29.92	29	28	88	N. W.	18	1.62	....	Stratus .	3-4	Cirrus ..	1-4	N. W.	....	....	....	31	11	
	9 0 p. m.	29.99	66	29	29.89	29	27	77	N.	22	2.42	....	Stratus .	3-4	Cirrus ..	1-4	N. W.	....	....	....	....	....	Light snow.

Meteorological record for the five days ending March 9, 1873.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from —)	Commen'd.	Ended.		Maximum.	Minimum.	
Wednesday, Mar. 5	1 23 a. m.	29. 98	56	22	29. 91	22	21	86	N.	26	3. 38	....	0	0	Cumulus	4-4	N.						
	7 0 a. m.	30. 04	66	16	29. 94	16	15	82	N. W.	32	5. 12	484	0	0	Cumulus	4-4	N. W.						Light snow.
	10 23 a. m.	30. 11	71	15	30. 00	15	14	82	N. W.	30	4. 50	....	Nimbus.	3-4	Cumulus	1-4	N. W.		11.15 a. m.	.01			
	2 0 p. m.	30. 09	63	15	30. 00	15	14	82	N. W.	26	3. 38	....	0	0	Cumulus	1-4	N. W.						
	5 23 p. m.	30. 11	71	14	30. 00	14	12	73	N. W.	30	4. 50	....	0	0	Cumulus	1-4	N. W.				29	13	
	9 0 p. m.	30. 12	69	13	30. 02	13	11	62	N.	35	6. 12	....	0	0	Cumulus	4-4	N.						
Thursday, Mar. 6.	1 23 a. m.	30. 10	53	8	30. 04	8	7	77	N.	33	5. 44	....	0	0	Cumulus	4-4	N.						
	7 0 a. m.	30. 16	69	2	30. 06	2	1	71	N.	32	5. 12	605	0	0	Cumulus	4-4	N. W.						
	10 23 a. m.	30. 20	67	3	30. 10	3	2	73	N.	34	5. 78	....	0	0	Cumulus	4-4	N.	9.40 a. m.					
	2 0 p. m.	30. 16	60	3	30. 08	3	2	73	N.	31	4. 80	....	Nimbus.	1-4	Cumulus	3 4	N.						Flurries snow.
	5 23 p. m.	30. 14	58	1	30. 07	1	0	70	N.	38	7. 22	....	Nimbus.	1-4	Cumulus	1-4	N.			.01	14	1	Melted snow.
	9 0 p. m.	30. 17	60	1	30. 09	1	0	70	N.	44	9. 68	....	0	0	Cumulus	4-4	N.						
Friday, Mar. 7 ...	1 23 a. m.	30. 13	51	0	30. 07	0	− 0. 5	85	N.	43	9. 24	....	0	0	Cumulus	4-4	N.			.01			
	7 0 a. m.	30. 10	59	1	30. 02	1	0. 5	85	N.	42	8. 82	928	0	0	Cumulus	4-4	N.						Light snow at intervals.
	10 23 a. m.	30. 13	65	0	30. 04	0	− 0. 5	85	N.	41	8. 40	....	Nimbus.	1-4	Cumulus	3-4	N.			.02			
	2 0 p. m.	30. 10	70	1	29. 99	1	0. 5	83	N.	46	10. 58	....	Nimbus	1-2	Cumulus	1 2	N.						
	5 23 p. m.	30. 06	60	2	29. 98	2	1	71	N.	44	9. 68	....	Nimbus	1-2	Cumulus	1-2	N.			.01	2	−1	
	9 0 p. m.	30. 10	70	−1	29. 99	−1	− 2	68	N.	32	5. 12	....	0	0	Cumulus	4-4	N.						
Saturday, Mar. 8.	1 23 a. m.	30 06	51	0	30. 00	0	− 1	69	N.	30	4. 50	....	Nimbus.	4-4						.01			
	7 0 a. m.	30. 05	54	2	29. 99	2	1	71	N.	37	6. 84	912	0	0	Cumulus	4-4	N.						Do.
	10 23 a. m.	30. 07	65	4	29. 98	4	3	74	N.	41	8. 40	....	Nimbus.	3-4	Cumulus	1-4	N.			.01			
	2 0 p. m.	30. 02	67	5	29. 92	5	4	75	N.	28	7. 22	....	Nimbus.	1-4	Cumulus	3-4	N.						
	5 23 p. m.	29. 98	63	5	29. 89	5	4	75	N.	35	6. 12	....	0	0	Cumulus	4-4	N.			.01	5	−2	
	9 0 p. m.	29. 96	64	4	29. 86	4	3	74	N.	33	5. 44	....	Nimbus.	1-2	Cumulus	1-2	N.						
Sunday, Mar. 9 ..	1 23 a. m.	29. 89	52	1	29. 83	1	0	70	N.	25	3. 12	....	0	0	Cumulus	3-4	N.						
	7 0 a. m.	29. 85	54	−2	29. 79	−2	− 3	67	N.	21	2. 20	738	0	0	Cumulus	4-4	N.						Snow flurries.
	10 23 a. m.	29. 87	66	1	29. 77	1	0	70	N.	21	2. 20	....	0	0	Cumulus	4-4	N.						
	2 0 p. m.	29. 82	71	2	29. 71	2	1	71	N.	22	2. 42	....	0	0	Cumulus	4-4	N.						
	5 23 p. m.	29. 76	70	2	29. 65	2	1	71	N.	17	1. 44	....	0	0	Cumulus	4-4	N.		4.30 p. m.	.00	3	−2	
	9 0 p. m.	29. 72	68	0	29. 62	0	− 1	69	N.	15	1. 12	....	0	0	Cumulus	4-4	N.						

Meteorological record for the five days ending March 14, 1873.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Monday, Mar. 10	1 23 a. m.	29. 64	53	—1	29. 58	—1	—2	68	N.	13	. 84	....	0	0	0	0	0	....	....	....	....	....	
	7 0 a. m.	29. 63	63	—1	29. 54	—1	—2	68	N.	15	1. 12	411	0	0	0	0	0	....	....	....	....	....	
	10 23 a. m.	29. 66	71	3	29. 55	3	1	46	N.	25	3. 12	....	0	0	0	0	0	....	....	....	....	....	
	2 0 p. m.	29. 66	69	5	29. 56	5	4	75	N.	26	3. 38	....	Nimbus.	1-2	Cumulus	1-2	N.	....	....	....	....	....	Light snow.
	5 23 p. m.	29. 67	66	3	29. 58	3	2	73	N.	24	2. 88	....	0	0	Cumulus	4-4	N.	1. 15 p. m.	....	.01	5	—2	
	9 0 p. m.	29. 71	67	5	29. 61	5	4	75	N.	23	2. 64	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
Tuesday, Mar. 11	1 23 a. m.	29. 75	55	5	29. 68	5	4	75	N.	21	2. 20	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	7 0 a. m.	29. 88	68	6	29. 78	6	5	76	N.	24	2. 88	516	0	0	Cumulus	4-4	N.	....	....	...	....	....	Do
	10 23 a. m.	29. 95	69	6	29. 85	6	5	76	N.	25	3. 12	....	0	0	Cumulus	3-4	N.	....	....	....	....	....	
	2 0 p. m.	29. 98	64	7	29. 89	7	6	76	N.	26	3. 38	....	0	0	Cumulus	3-4	N.	....	....	....	....	....	
	5 23 p. m.	30. 03	68	5	29. 93	5	4	75	N.	22	2. 42	....	0	0	Cumulus	4-4	N.	....	....	....	7	3	
	9 0 p. m.	30. 10	63	4	30. 01	4	3	74	N.	20	2. 00	....	0	0	Cumulus	4-4	N.	....	....	..	....	....	Do
Wednesd'y, Mar. 12	1 23 a. m.	30. 14	58	5	30. 07	5	4. 5	87	N.	17	1. 44	....	0	0	Cumulus	4-4	N.	....	....	.01	....	....	
	7 0 a. m.	30. 24	65	6	30. 15	6	5	76	N.	16	1. 28	504	Nimbus.	1-4	Cumulus	3-4	N.	....	....	....	....	....	
	10 23 a. m.	30. 26	66	7	30. 16	7	6	76	N.	16	1. 28	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	2 0 p. m.	30. 26	69	9	30. 15	9	8	78	N.	12	. 72	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	5 23 p. m.	30. 27	63	8	30. 18	8	7	77	N.	11	. 60	....	0	0	Cumulus	4-4	N.	....	....	.01	9	2	
	9 0 p. m.	30. 29	64	6	30. 20	6	5	76	N.	14	. 98	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
Thursday, Mar. 13	1 23 a. m.	30. 25	54	5	30. 10	5	4	75	N.	12	. 72	..	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	7 0 a. m.	30. 26	66	5	30. 16	5	4	75	N.	15	1. 12	329	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	10 23 a. m.	30. 26	71	7	30. 15	7	6	76	N.	13	. 84	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	2 0 p. m.	30. 23	68	6	30. 13	6	5	76	N.	14	. 98	...	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	5 23 p. m.	30. 21	66	2	30. 11	2	1	71	N.	24	2. 88	....	0	0	Cumulus	4-4	N.	....	....	....	8	1	
	10 23 p. m.	30. 22	63	0	30. 13	0	—0. 5	85	N.	24	2. 88	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
Friday, Mar. 14	1 23 a. m.	30. 20	52	—2	30. 14	—2	—2. 5	83	N.	21	2. 20	....	0	0	Cumulus	4-4	N.	....	....	.01	....	....	
	7 0 a. m.	30. 16	62	0	30. 07	0	—0. 5	85	N.	20	2. 00	479	0	0	Cumulus	4-4	N.	....	....	....	....	....	Do
	10 23 a. m.	30. 16	66	1	30. 06	1	0. 5	85	N.	21	2. 20	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	2 0 p. m.	30. 15	66	3	30. 05	3	2. 5	86	N. E.	23	2. 64	....	0	0	Cumulus	4-4	N. E.	....	....	....	....	....	
	5 23 p. m.	30. 11	65	3	30. 02	3	2. 5	86	N. E.	19	1. 80	...	Nimbus	1-4	Cumulus	3-4	N. E.	....	....	.01	3	—2	Melted snow.
	9 0 p. m.	30. 09	62	2	30. 00	2	1. 5	85	N. E.	17	1. 44	....	Nimbus.	1-4	Cumulus	3-4	N. E.	....	....	....	....	....	

Meteorological record for the five days ending March 19, 1873.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'd.	Ended.		Maximum.	Minimum.	
Saturday, Mar. 15	1 23 a. m.	30.02	50	0	29.97	0	−0.5	85	N. E.	18	1.62	...	0	0	Cumulus	4-4	N. E.	...	...	.02	...	...	
	7 0 a. m.	29.91	55	−1	29.84	−1	−1.5	84	N. E.	23	2.64	420	Nimbus.	1-4	Cumulus	3-4	N. E.	...	...	...	...	...	Light snow.
	10 23 a. m.	29.88	49	1	29.83	1	0.5	85	N. E.	20	2.00	...	0	0	Cumulus	4-4	N. E.	...	...	.01	...	...	
	2 0 p. m.	29.88	69	4	29.78	4	3.5	86	N. E.	25	3.12	...	Nimbus.	1-4	Cumulus	3-4	N. E.	...	...	...	...	...	
	5 23 p. m.	29.86	68	0	29.76	0	−0.5	85	N. E.	24	2.88	...	Nimbus.	1-4	Cumulus	3-4	N. E.	...	...	.01	5	−2	
	9 0 p. m.	29.88	67	−2	29.78	−2	−2.5	83	N. E.	22	2.42	...	0	0	Cumulus	4-4	N. E.	...	...	...	...	...	
Sunday, Mar. 16	1 23 a. m.	29.82	52	−4	29.76	−4	−4.5	82	N.	24	2.88	...	0	0	Cumulus	1-2	N.	...	...	...	...	...	
	7 0 a. m.	29.83	64	−6	29.74	−6	−6.5	81	N.	23	2.64	585	0	0	0	0	0	...	...	...	...	...	Frost; snow.
	10 23 a. m.	29.85	71	−1	29.74	−1	−1.5	84	N.	24	2.88	...	0	0	0	0	0	...	10.30 a. m.	.01	...	...	Do.
	2 0 p. m.	29.81	69	2	29.71	2	1.5	85	N.	24	2.88	...	0	0	0	0	0	...	...	...	...	...	
	5 23 p. m.	29.80	70	0	29.69	0	−0.5	85	N.	18	1.62	...	0	0	0	0	0	...	...	...	2	−6	
	9 0 p. m.	29.82	67	−2	29.72	−2	−2.5	83	N.	20	2.00	...	0	0	Cumulus	1-4	N.	...	...	...	...	...	
Monday, Mar. 17	1 23 a. m.	29.80	61	−3	29.72	−3	−3.5	83	N.	17	1.44	...	0	0	0	0	0	...	...	...	...	...	
	7 0 a. m.	29.81	53	−3	29.75	−3	−3.5	83	N.	24	2.88	528	0	0	0	0	0	...	...	...	...	...	
	10 23 a. m.	29.88	70	1	29.77	1	0.5	85	N.	26	3.38	...	0	0	0	0	0	...	...	...	...	...	
	2 0 p. m.	29.90	68	4	29 80	4	3	74	N.	23	2.64	...	0	0	Cumulus	3-4	N.	...	...	...	...	...	Light snow.
	5 23 p. m.	29.94	70	4	29.83	4	3.5	86	N.	20	2.00	...	0	0	Cumulus	4-4	N.	...	...	...	5	−4	
	9 0 p. m.	30.01	64	3	29.92	3	2.5	86	N.	20	2.00	...	0	0	Cumulus	1-4	N.	...	...	...	...	...	
Tuesday, Mar. 18	1 23 a. m.	30.05	54	1	29.99	1	0.5	85	N.	16	1.28	...	0	0	0	0	0	...	...	...	...	...	
	7 0 a. m.	30.17	59	2	30.09	2	1	71	N.	14	.98	501	0	0	0	0	0	...	...	...	...	...	
	10 23 a. m.	30.23	70	4	30.12	4	3	74	N.	17	1.44	...	0	0	0	0	0	...	...	...	...	...	
	2 0 p. m.	30.26	71	9	30.15	9	8	78	N.	14	.98	...	0	0	0	0	0	...	...	...	...	...	
	5 23 p. m.	30.24	66	8	30.14	8	7.5	88	E.	16	1.28	...	0	0	0	0	0	...	...	...	10	−1	
	9 0 p. m.	30.25	65	5	30.16	5	4.5	87	E.	18	1.62	...	0	0	0	0	0	...	...	...	...	...	
Wednesday, Mar. 19	1 23 a. m.	30.20	56	4	30.13	4	3.5	86	E.	22	2.42	...	0	0	0	0	0	...	...	...	...	...	
	7 0 a. m.	30.00	52	8	29.94	8	7.5	88	E.	30	4.50	511	0	0	Cirrus ..	4-4	S. W.	...	...	...	...	...	
	10 23 a. m.	29.94	61	11	29.86	11	10.5	89	E.	35	6.12	...	0	0	Cirrus ..	4-4	S. W.	...	...	...	...	...	
	2 7 p. m.	29.85	62	15	29.76	15	15	100	E.	43	9.24	...	0	0	Cirrus ..	4-4	S. W.	...	...	...	...	...	
	5 23 p. m.	29.61	52	17	29.55	17	17	100	E.	67	22.45	...	Nimbus.	4-4	...	...	...	3.15 p. m.	...	.01	17	4	
	9 0 p. m.	29.51	68	18	29.41	18	18	100	E.	52	13.52	...	Nimbus.	4-4	...	...	...	...	...	...	...	...	Furious storm of wind and snow.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction. (moving from—)	Comment'd.	Ended.		Maximum.	Minimum.	
Thursday, Mar. 20	1 23 a. m.	29.42	54	21	29.36	21	21	100	E.	36	6.48	....	Nimbus	4·4	....	...	......	....	....	.34	...	...	Melted snow.
	7 0 a. m.	29.51	58	31	29.44	31	30.5	94	S.	16	1.28	891	Stratus	1·4	Cirrus	1·4	S.	....	....	...	...	...	
	10 23 a. m.	29.58	67	33	29.48	33	32.5	94	S.	17	1.44	....	Stratus	1·2	Cirrus	1·2	S.	....	Night	.04	...	...	
	2 0 p. m.	29.64	71	33	29.53	33	32.5	94	S.	18	1.62	....	Stratus	1·2	Cirrus	1·4	S.	....	....	...	...	...	
	5 23 p. m.	29.68	70	32	29.58	32	31.5	94	S.	13	.84	....	Hazy	....	0	0	0	....	....	...	34	17	
	9 0 p. m.	29.76	70	29	29.65	29	28.5	94	S.	7	.24	....	0	0	0	0	0	....	....	...	...	...	
Friday Mar. 21	1 23 a. m.	29.74	58	26	29.67	26	25.5	93	S.	6	.18	..	Fog	1·2	0	0	0	....	....	...	...	...	
	7 0 a. m.	29.82	70	29	29.71	29	29	100	S. E.	5	.12	277	Fog	4·4	....	...	......	....	....	...	...	...	
	10 23 a. m.	29.84	68	30	29.74	30	30	100	S. E.	7	.24	....	Fog	4·4	....	...	......	....	....	...	...	...	
	2 0 p. m.	29.86	70	33	29.75	33	32.5	94	S. E.	2	.02	....	Stratus	4·4	....	...	......	....	....	...	...	...	
	5 23 p. m.	29.86	66	32	29.58	32	31.5	94	S.	6	.18	....	Fog	4·4	....	...	......	....	....	...	33	25	
	9 0 p. m.	29.88	70	30	29.77	30	29.5	94	E.	7	.24	....	Nimbus	4·4	....	...	......	8.20 p. m.	9.10 p. m.	.03	...	...	
Saturday, Mar. 22	1 23 a. m.	29.91	58	31	29.84	31	30.5	94	S.	6	.18	....	0	0	Cirrus	3·4	......	....	....	...	...	...	
	7 0 a. m.	30.02	71	31	29.91	31	30.5	94	S.W.	5	.12	183	0	0	Cirrus	4·4	S.W.	....	....	...	...	...	
	10 23 a. m.	30.04	66	33	29.94	33	32	89	S.	6	.18	....	0	0	Cirrus	4·4	S.W.	....	....	...	...	...	
	2 0 p. m.	30.03	67	34	29.93	34	33	89	S.	7	.24	...	0	0	Cirrus	4·4	S.W.	....	....	...	...	...	
	5 23 p. m.	30.02	67	31	29.92	31	30	89	S. E.	8	.32	....	0	0	Cirrus	1·2	S.W.	....	....	...	35	29	
	9 0 p. m.	30.04	69	31	29.94	31	30.5	94	S. E.	8	.32	...	0	0	Cirrus	4·4	S.W.	....	....	...	...	...	
Sunday, Mar. 23	1 23 a. m.	29.98	62	28	29.89	28	27.5	94	S. E.	11	.60	....	0	0	....	4·4	......	....	....	...	...	...	
	7 0 a. m.	29.82	67	30	29.72	30	29.5	94	S. E.	23	2.64	285	Stratus	4·4	....	...	......	....	....	...	...	...	
	10 23 a. m.	29.74	68	31	29.64	31	30.5	94	S. E.	27	3.64	....	Stratus	4·4	....	...	......	....	....	...	...	...	
	2 0 p. m.	29.59	62	30	29.51	30	29.5	94	S. E.	33	5.44	....	0	0	Cirrus	4·4	S.W.	....	....	...	...	...	
	5 23 p. m.	29.46	66	29	29.37	29	28.5	94	S. E.	39	7.60	....	Stratus	4·4	....	...	......	....	....	...	31	27	
	9 0 p. m.	29.32	63	29	29.23	29	29	100	S. E.	88	38.75	....	Nimbus	4·4	....	...	......	....	....	...	...	...	Heavy snow and storm.
Monday, Mar. 24	1 23 a. m.	29.18	60	29	29.10	29	29	100	S. E.	36	6.48	....	Nimbus	4·4	....	...	......	7.20 p. m.	....	.31	...	...	
	7 0 a. m.	29.16	67	30	29.06	30	29	89	S.W.	8	.32	892	Hazy	...	Cirrus	1·4	S.	....	....	...	...	...	
	10 23 a. m.	29.18	69	32	29.08	32	31	89	S. E.	4	.08	....	Hazy	...	Cirrus	1·4	S.	....	1.45 a. m.	.02	...	...	
	2 0 p. m.	29.19	68	34	29.09	34	33	89	S. E.	3	.04	....	Hazy	...	Cirrus	1·4	S.	....	....	...	...	...	
	5 23 p. m.	29.20	68	31	29.10	31	30.5	94	S. E.	3	.04	....	Fog	3·4	Cirrus	1·4	S.	....	....	...	34	28	
	9 0 p. m.	29.25	70	28	29.15	28	27.5	94	E.	1	.01	...	Hazy	...	Cirrus	1·4	......	....	....	...	...	...	

Meteorological record for the five days ending March 29, 1873.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'n'd.	Ended.		Maximum.	Minimum.	
Tuesday, Mar. 25	1 23 a. m.	29. 26	57	26	29. 19	26	26	100	E.	1	.00	....	Fog	4-4	....	....	....	....	....	....	....	....	
	7 0 a. m.	29. 31	64	28	29. 22	28	28	100	E.	9	.40	102	Fog	4-4	....	....	....	....	....	....	....	....	Wind E. N. E.
	10 23 a. m.	29. 34	68	29	29. 24	29	28. 5	94	E.	11	.60	....	Stratus	4-4	....	....	....	8.55 a. m.	....	.02	....	....	Melted snow.
	2 0 p. m.	29. 31	70	31	29. 21	31	30. 5	94	E.	15	1. 12	....	Stratus	4-4	....	....	....	....	....	....	....	....	Wind E. N. E.
	5 23 p. m.	29. 27	69	29	29. 17	29	28. 5	94	E.	16	1. 28	....	Stratus	4-4	....	....	....	....	....	....	32	25	
	9 0 p. m.	29. 23	71	26	29. 12	26	25. 5	93	E.	20	2. 00	....	Stratus	4-4	....	....	....	....	....	....	....	....	Snow.
Wednesday, Mar. 26	1 23 a. m.	29. 17	58	22	29. 10	22	22	100	E.	23	2. 64	....	Nimbus	4-4	....	....	....	....	....	.08	....	....	Melted snow.
	7 0 a. m.	29. 14	66	18	29. 05	18	18	100	E.	23	2. 64	383	Stratus	4-4	....	....	....	....	....	....	....	....	Light snow.
	10 23 a. m.	29. 21	67	18	29. 11	18	17. 5	91	E.	22	2. 42	....	Stratus	2-4	Cirrus	2-4	W.	....	....	.08	....	....	Melted snow.
	2 0 p. m	29. 26	69	18	29. 16	18	17	84	N. E.	24	2. 88	....	Stratus	2-4	Cirrus	2-4	W.	....	....	....	....	....	Light snow.
	5 23 p. m.	29. 31	62	11	29. 23	11	10	79	N. E.	18	1. 62	....	Stratus	1-4	Cirrus	1-4	W.	....	2.10 p. m.	....	29	11	
	9 0 p. m.	29. 41	71	6	29. 30	6	5	76	N. E.	19	1. 80	....	0	0	0	0	0	....	....	....	....	....	
Thursday, Mar. 27	1 23 a. m.	29. 47	51	3	29. 42	3	2	73	N.	17	1. 44	....	0	0	0	0	0	....	....	....	....	....	
	7 0 a. m.	29. 60	59	2	29. 52	2	1	71	N.	16	1. 28	432	0	0	0	0	0	....	....	....	....	....	
	10 23 a. m.	29. 70	65	7	29. 61	7	6	76	N.	14	.98	....	0	0	Cumulus	1-4	N.	....	....	....	....	....	
	2 0 p. m.	29. 72	63	12	29. 63	12	11	80	N.	4	.08	....	0	0	0	0	0	....	....	....	....	....	
	5 23 p. m.	29. 74	62	12	29. 66	12	11	80	N. W.	6	.18	....	0	0	Cumulus	1-4	N. W.	2.50 p. m.	3.50 p. m.	....	12	1	Flurry of snow.
	9 0 p. m.	29. 75	65	12	29. 66	12	11	80	N. W.	14	.98	....	0	0	Cumulus	4-4	N. W.	....	....	....	....	....	
Friday, Mar. 28	1 23 a. m.	29. 72	55	10	29. 65	10	9	79	N. W.	4	.08	....	0	0	Cumulus	2-4	N. W.	....	....	....	....	....	
	7 0 a. m.	29. 66	57	6	29. 59	6	5	76	Calm.	0	.00	186	0	0	0	0	0	....	....	....	....	....	
	10 23 a. m.	29. 68	69	16	29. 58	16	15	82	S. W.	7	.24	....	0	0	Cirrus	3-4	N. W.	....	....	....	....	....	
	2 0 p. m.	29. 66	68	21	29. 56	21	19	71	S. W.	16	1. 28	....	0	0	0	0	0	....	....	....	....	....	
	5 23 p. m.	29. 62	65	21	29. 53	21	20	85	S. W.	17	1. 44	....	0	0	Cirrus	3-4	N. W.	....	....	....	21	5	
	9 0 p. m.	29. 59	63	21	29. 50	21	20	85	S. W.	18	1. 62	....	0	0	Cirrus	4-4	N. W.	....	....	....	....	....	Cirro-cumulus.
Saturday, Mar. 29	1 23 a. m.	29. 57	58	21	29. 50	21	20	85	S.	29	4. 20	....	0	0	....	4-4	....	11.15 p. m.	....	.04	....	....	Melted snow.
	7 0 a. m.	29. 54	70	22	29. 44	22	21	86	Calm.	0	.00	312	0	0	Cirrus	4-4	N. W.	....	....	....	....	....	Cirro-cumulus.
	10 23 a. m.	29. 56	62	28	29. 48	28	27	88	S.	6	.18	....	0	0	Cirrus	1-4	N. W.	....	D'g night	....	....	....	
	2 0 p. m.	29. 59	71	32	29. 48	32	30	79	S. W.	6	.18	....	0	0	Cirrus	2-4	W.	....	....	....	....	....	Do.
	5 23 p. m.	29. 55	70	29	29. 45	29	28	88	S.	5	.12	....	0	0	Cirrus	2-4	W.	....	....	....	33	21	
	9 0 p. m.	29. 54	69	25	29. 44	25	24	87	S.	11	.60	....	0	0	Cirrus	3-4	W.	....	....	....	....	....	Do.

Meteorological record for the five days ending April 3, 1873.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'n'd.	Ended.		Maximum.	Minimum.	
Sunday, March 30..	1 23 a. m.	29. 51	59	22	29. 43	22	21	86	S. E.	1	.00	...	0	0	0	0	0	....	....	....	....	....	
	7 0 a. m.	29. 48	70	21	29. 38	21	20	85	Calm.	0	.00	107	0	0	0	0	0	....	....	....	....	....	
	10 23 a. m.	29. 48	70	27	29. 38	27	26	88	E.	10	.50	....	0	0	0	0	0	....	....	....	....	....	
	2 0 p. m.	29. 50	70	28	29. 40	28	27	88	E.	12	.72	....	0	0	0	0	0	....	....	....	....	....	Wind E. S. E.
	5 23 p. m.	29. 51	69	26	29. 41	26	25	87	E.	7	.24	....	0	0	0	0	0	....	....	....	29	20	
	9 0 p. m.	29. 56	71	18	29. 45	18	17. 5	91	E.	7	.24	....	0	0	0	0	0	....	....	....	....	....	Wind E. N. E.
Monday, March 31.	1 23 a. m.	29. 58	61	14	29. 50	14	13. 5	90	E.	16	1. 28	....	0	0	0	0	0	....	....	....	....	....	
	7 0 a. m.	29. 66	65	13	29. 57	13	12	81	E.	17	1. 44	229	0	0	0	0	0	....	....	....	....	....	
	10 23 a. m.	20. 71	65	17	29. 62	17	16. 5	91	S. E.	15	1. 12	....	Stratus..	4-4	....	....	......	....	....	....	....	....	
	2 0 p. m.	29. 74	65	21	29. 65	21	20	85	S. E.	13	.84	....	0	0	Cumulus	4-4	S. E.	....				....	Wind E. S. E.
	5 23 p. m.	29. 74	59	19	29. 66	19	18	84	S. E.	21	2. 20	....	0	0	Cirrus...	2-4	S. W.	....		....	25	12	
	9 0 p. m.	29. 78	64	17	29. 69	17	16	83	S E.	8	.32	....	0	0	0	0	0	....	....	....	....	....	
Tuesday, April 1...	1 23 a. m.	29. 83	56	14	29. 76	14	13	81	E.	4	.08	....	0	0	....	4-4	......	....	....	....	....	....	
	7 0 a. m.	29. 92	55	8	29. 85	8	7	77	N.	7	.24	307	0	0	Cirrus...	2-4	N. W.	....	....	....	....	....	
	10 23 a. m.	29. 97	64	16	29. 88	16	15	82	S. E.	11	.60	....	0	0	Cirrus...	2-4	N. W.	D'g night.	D'g night.	.01	....	....	Melted snow.
	2 0 p. m.	29. 96	67	21	20. 86	21	20	85	S. E.	23	2. 64	....	0	0	Cirrus...	4-4	S. W.	....	....	....	....	....	
	5 23 p. m.	20. 85	61	28	29. 77	28	27. 5	94	S. E.	26	3. 38	....	Nimbus	4-4	....	....	......	4.10 p. m.	....	.02	28	7	Do.
	9 0 p. m.	29. 76	59	31	29. 68	31	30. 5	94	S. E.	36	6. 48	....	Nimbus	4-4	....	....		....	....	....	....	....	Snow.
Wednesday, April 2	1 23 a. m.	29. 78	54	32	29. 72	32	31. 5	94	S. W.	21	2. 20	...	0	0	....	4 4	......	....	11.15 p. m.	.08	....	....	Melted snow.
	7 0 a. m.	29. 84	56	31	29. 77	31	30	89	S. W.	26	3. 38	525	0	0	Cirrus...	4-4	S. W.	....	....	....	....	....	
	10 23 a. m.	29. 89	60	34	29. 81	34	33	99	S. W.	36	6. 48	....	0	0	Cirrus...	3-4	S. W.	....	....	....	....	....	
	2 0 p. m.	29. 90	60	33	29. 82	33	32. 5	94	S.	13	.84	....	Nimbus.	4-4	....	....	......	....	....	....	....	....	Snow.
	5 23 p. m.	29. 88	66	33	29. 78	33	32. 5	94	S. W.	28	3. 92	....	Stratus..	4-4	....	....	......	1.50 p. m.	4.15 p. m.	.03	34	28	Melted snow.
	9 0 p. m.	29. 93	65	31	29. 84	31	30. 5	94	S. W.	20	2. 00	....	0	0	Cirrus...	4-4	......	....	....	....	....	....	
Thursday, April 3..	1 23 a. m.	29. 94	58	31	29. 87	31	30. 5	94	S.	24	2. 88	....	Nimbus	4-4	....	....	......	D'g night.	....	.01	....	....	Do.
	7 0 a. m.	29. 88	63	32	29. 79	32	31. 5	94	S.	33	5. 44	631	Stratus..	4-4	....	....	......	....	....	....	....	....	Light snow.
	10 23 a. m.	29. 87	62	33	20. 78	33	32. 5	94	S.	32	5. 12	....	Nimbus.	4-4	....	....	......		....	.07	....	....	Melted snow.
	2 0 p. m.	29. 82	61	34	29. 74	34	33. 5	94	S.	22	2. 42	....	0	0	Cirrus...	4-4	......	....	....	....	....	....	L't cir.-stratus from E.
	5 23 p. m.	29. 78	66	33	20. 66	33	32. 5	94	E.	3	.04	....	Stratus..	2-4	Cirrus...	2-4	E.	....	12.20 p. m.	.01	35	30	Melted snow.
	9 0 p. m.	29. 71	70	31	29. 61	31	30. 5	94	E.	7	.24	....	0	0	Cirrus...	4-4	......	....	....	....	....	....	

Meteorological record for the five days ending April 8, 1873.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'd.	Ended.		Maximum.	Minimum.	
Friday, April 4	1 23 a. m.	29.62	60	28	29.54	28	27.5	94	E.	11	.60	....	0	0	Cirrus	4-4	......	....	....	....	....	....	
	7 0 a. m.	29.50	67	29	29.40	29	28.5	94	E.	25	3.12	318	Nimbus	4-4	....	....	......	....	....	....	....	....	Light snow.
	10 23 a. m.	29.45	65	29	29.36	29	29	100	E.	32	5.12	....	Stratus	4-4	....	....	......	Night	....	.01	....	....	
	2 0 p. m.	29.41	64	31	29.32	31	30.5	94	E.	33	5.44	....	Stratus	4-4	....	....	......	....	....	....	....	....	
	5 23 p. m.	29.39	65	29	29.30	29	28.5	94	N.	42	8.82	....	Nimbus	1-2	Cumulus	1-2	N.	....	....	.02	31	28	
	9 0 p. m.	29.41	66	26	29.32	26	25	87	N.	53	14.04	....	Nimbus	1-2	Cumulus	1-2	N.	....	....	....	....	....	
Saturday, April 5	1 23 a. m.	29.39	57	25	29.32	25	24	87	N.	46	10.58	...	Nimbus	4-4	....	....	......	....	....	.02	....	....	
	7 0 a. m.	29.42	69	23	29.32	23	22.5	93	N.	39	7.60	911	0	0	Cirrus	4-4	E.	....	....	....	....	....	
	10 23 a. m.	29.41	64	23	29.32	23	22.5	93	N.	35	6.12	....	0	0	Cirrus	4-4	E.	....	....	.02	....	....	
	2 0 p. m.	29.42	65	24	29.33	24	23.5	93	N.	37	6.84	....	Nimbus	1-2	Cumulus	1-2	N.	....	....	....	....	....	
	5 23 p. m.	29.39	61	23	29.31	23	22.5	93	N. W.	26	3.38	....	Nimbus	1-2	Cumulus	1-2	N. W.	....	....	.01	29	22	Melted snow
	9 0 p. m.	29.42	66	22	29.33	22	21	86	N.	24	2.88	....	0	0	Cirrus	4-4	......	....	....	....	....	....	
Sunday, April 6	1 23 a. m.	29.40	56	22	29.33	22	21.5	92	W.	17	1.44	....	Nimbus	1-2	Cumulus	1-2	W.	....	....	.01	....	....	
	7 0 a. m.	29.35	56	22	29.28	22	21.5	92	W.	17	1.44	611	Nimbus	1-2	Cumulus	1-2	W.	....	....	....	....	....	
	10 23 a. m.	29.35	61	24	29.27	24	23	86	W.	7	.24	....	0	0	Cumulus	4-4	W.	....	....	....	....	....	
	2 0 p. m.	29.34	67	27	29.24	27	26	88	W.	9	.40	....	0	0	Cumulus	4-4	W.	....	2.15 p. m.	.00	....	....	
	5 23 p. m.	29.30	66	27	29.21	27	26	88	W.	8	.32	....	0	0	Cumulus	4-4	W.	....	....	....	27	19	
	9 0 p. m.	29.31	67	26	29.21	26	25	87	W.	1	.01	....	0	0	Cumulus	4-4	W.	....	....	....	....	....	
Monday, April 7	1 23 a. m.	29.30	58	26	29.23	26	25	87	W.	4	.08	...	0	0	Cumulus	4-4	W.	....	....	....	....	....	
	7 0 a. m.	29.33	71	26	29.22	26	25	87	W.	5	.12	166	0	0	Cirrus	4-4	W.	....	....	....	....	....	
	10 23 a. m.	29.35	65	30	29.26	30	28	78	S. W.	16	1.28	....	0	0	Cirrus	1-4	W.	....	....	....	....	....	
	2 0 p. m.	29.36	67	32	29.26	32	30	79	W.	20	2.00	....	0	0	Cumulus	4-4	W.	....	....	....	32	26	Light snow.
	5 23 p. m.	29.36	63	28	29.27	28	26	76	W.	19	1.80	....	Nimbus	4-4	....	....	......	1.40 p. m.	....	.02	....	....	
	9 0 p. m.	29.44	68	22	29.34	22	21	86	N. W.	38	7.22	....	Nimbus	1-4	Cumulus	3-4	N. W.	....	....	....	....	....	
Tuesday, April 8	1 23 a. m.	29.49	57	18	29.42	18	17	84	N. W.	41	8.40	....	0	0	Cumulus	4-4	N. W.	....	....	.01	....	....	
	7 0 a. m.	29.60	60	18	29.52	18	17	84	N. W.	46	10.58	733	Nimbus	1-4	Cumulus	3-4	N. W.	....	....	....	....	....	
	10 23 a. m.	29.65	67	18	29.55	18	16	68	N. W.	44	9.68	....	0	0	Cumulus	4-4	N. W.	....	....	.01	....	....	
	2 0 p. m.	29.71	66	19	29.62	19	18	84	N. W.	45	10.12	....	Nimbus	3-4	Cumulus	1-4	N. W.	....	....	....	....	....	
	5 23 p. m.	29.73	61	18	29.65	18	17	84	N. W.	43	9.24	....	Nimbus	1-4	Cumulus	3-4	N. W.	....	....	.02	28	18	Melted snow.
	9 0 p. m.	29.75	67	12	29.65	12	11	80	N. W.	41	8.40	....	0	0	Cirrus	1-4	N. W.	....	....	....	....	....	

Meteorological record for the five days ending April 13, 1873.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from —)	Commen'd.	Ended.		Maximum.	Minimum.	
Wednesday, Apr. 9.	1 23 a. m.	29.74	54	14	29.68	14	13	81	N. W.	37	6.84	....	0	0	Cumulus	4-4	N. W.	....	....	.01	....	....	Melted snow.
	7 0 a. m.	29.75	55	14	29.68	14	13	81	N. W.	38	7.22	974	Nimbus.	1-4	Cumulus	3-4	N. W.	....	....	....	....	....	Light snow.
	10 23 a. m.	29.80	61	15	29.72	15	14	82	N. W.	41	8.40	....	Nimbus	4 4	....	....	....	....	....	.02	....	....	
	2 0 p. m.	29.85	65	14	29.76	14	13	81	N. W.	44	9.68	....	0	0	Cumulus	4-4	N. W.	....	....	....	....	....	
	5 23 p. m.	29.92	66	12	29.82	12	10	61	N. W.	51	13.00	....	0	0	Cirrus ..	1-4	N. W.	....	3.30 p.m.	.01	15	12	
	9 0 p. m.	29.95	67	12	20.85	12	11	80	N. W.	41	8.40	....	0	0	Cirrus ..	1-4	N. W.	....	....	....	....	....	
Thursday, April 10.	1 23 a. m.	29.92	52	9	29.86	9	8	78	N. W.	32	5.12	....	0	0	Cumulus	4-4	N. W.	11.05 p.m.	....	....	....	....	
	7 0 a. m.	29.92	53	12	29.86	12	11	80	N. W.	27	3.64	921	0	0	Cumulus	4-4	N. W.	....	....	....	....	....	
	10 23 a. m.	29.96	61	13	29.88	13	12	81	N.	30	4.50	....	Nimbus.	4-4	....	....	....	....	....	.02	....	....	
	2 0 p. m.	30.01	65	10	29.92	10	9	79	N.	34	5.78	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	5 23 p. m.	30.04	67	9	29.94	9	8	78	N.	32	5.12	....	0	0	Cumulus	4-4	N.	....	....	....	14	8	
	9 0 p. m.	30.08	66	6	29.98	6	5	78	N.	26	3.38	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
Friday, April 11....	1 23 a. m.	30.06	52	4	30.00	4	3	74	N.	25	3.12	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	7 0 a. m.	30.05	46	5	30.01	5	4	75	N.	31	4.80	683	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	10 23 a. m.	30.13	64	8	30.04	8	7	77	N.	34	5.78	....	0	0	Cumulus	4-4	N.	....	....	.01	....	....	
	2 0 p. m.	30.12	68	9	30.02	9	8	78	N.	38	7.22	....	Nimbus.	1-2	Cumulus	1-2	N.	....	....	....	....	....	
	5 23 p. m.	30.11	62	10	30.02	10	9	79	N.	48	11.52	....	0	0	Cumulus	4-4	N.	....	4.40 p.m.	.01	10	3	Melted snow.
	9 0 p. m.	30.13	63	9	30.04	9	8	78	N.	46	10.58	....	0	0	Cirrus ..	3-4	N.	....	....	....	....	....	
Saturday, April 12..	1 23 a. m.	30.15	53	8	30.09	8	7	77	N.	44	9.68	....	0	0	Cirrus ..	1-4	N.	....	....	....	....	....	
	7 0 a. m.	30.25	57	8	30.18	8	7	77	N.	38	7.22	973	0	0	Cumulus	1-4	N.	....	....	....	....	....	
	10 23 a. m.	30.31	69	11	30.20	11	10	79	N.	36	6.48	....	0	0	0	0	0	....	....	....	....	....	
	2 0 p. m.	30.33	64	13	30.24	13	12	81	N.	34	5.78	....	0	0	0	0	0	....	....	....	....	....	
	5 23 p. m.	30.35	67	13	30.25	13	12	81	N.	35	6.12	....	0	0	0	0	0	....	....	....	14	7	
	9 0 p. m.	30.38	67	12	30.28	12	11	80	N.	33	5.44	....	0	0	0	0	0	....	....	....	....	....	
Sunday, April 13...	1 23 a. m.	30.36	52	7	30.30	7	6	76	N. W.	21	2.20	....	0	0	0	0	0	....	....	....	....	....	
	7 0 a. m.	30.40	61	12	30.32	12	11	80	N. W.	8	.32	658	0	0	0	0	0	....	....	....	....	....	
	10 23 a. m.	30.41	67	18	30.31	18	17	84	N. W.	7	.24	...	0	0	Cirrus ..	1-2	N. W.	....	....	....	....	....	
	2 0 p. m.	30.36	71	30	30.25	30	28	78	S. W.	8	.32	....	0	0	Cirrus ..	4-4	N. W.	....	....	....	....	....	
	5 23 p. m	30.28	67	27	30.18	27	26	88	S. W	16	1.28	....	0	0	Cirrus ..	4-4	S. W.	....	....	....	30	6	
	9 0 p. m.	30.18	68	24	30.04	24	23.5	93	S.	17	1.44	...	0	0	Cirrus ..	1-2	......	....	....	....	....	....	

Meteorological record for the five days ending April 18, 1873.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.		Maximum.	Minimum.	
Monday, April 14	1 23 a. m.	29.98	56	26	29.91	26	25.5	93	S.	34	5.78	....	Stratus	1-2	Cirrus	1-2	S.	....	....	....	....	....	
	7 0 a. m.	29.67	62	29	29.59	29	28.5	94	S.	43	9.24	489	Nimbus	4-4	....	....	....	....	....	....	....	....	Snow.
	10 23 a. m.	29.54	60	32	29.46	32	31.5	94	S.	42	8.82	....	Nimbus	4-4	....	....	....	Night	....	.06	....	....	
	2 0 p. m.	29.47	65	32	29.38	32	31.5	94	S. W.	31	4.80	....	Stratus	4-4	....	....	....	....	....	....	....	....	Light snow.
	5 23 p. m.	29.56	64	28	29.47	28	27	88	W.	6	1.28	....	0	0	0	0	0	....	4.30 p.m.	.02	33	25	Melted snow.
	9 0 p. m.	29.62	69	26	29.52	26	25	87	S. W.	16	1.28	....	0	0	0	0	0	....	....	....	....	....	
Tuesday, April 15	1 23 a. m.	29.63	60	27	29.55	27	26	88	S. W.	18	1.62	....	0	0	Cumulus	1-2	S. W	....	....	....	....	....	
	7 0 a. m.	29.66	68	28	29.56	28	27	88	W.	24	2.88	581	0	0	Cumulus	3-1	W.	....	....	....	....	....	Light snow-showers.
	10 23 a. m.	29.69	68	31	29.59	31	29	78	W.	22	2.42	....	0	0	Cumulus	1-4	W.	Night	....	.01	....	....	
	2 0 p. m.	29.72	70	32	29.62	32	29	69	W.	23	2.64	....	0	0	0	0	0	....	....	....	....	....	
	5 23 p. m.	29.72	63	28	29.63	28	26	76	W.	25	3.12	....	0	0	Cumulus	1-2	W.	....	....	....	33	24	
	9 0 p. m.	29.76	68	28	29.66	28	27	88	W.	26	3.38	....	0	0	Cumulus	1-2	W.	....	....	....	....	....	
Wednesday, April 16	1 23 a. m.	29.77	58	25	29.70	25	24	87	W.	22	2.42	....	0	0	Cumulus	4-4	W.	....	....	....	....	....	
	7 0 a. m.	29.84	65	26	29.75	26	25	87	N. W.	22	2.42	561	Nimbus	3-4	Cumulus	1-4	N. W.	....	....	....	....	....	Snow-flurries.
	10 23 a. m.	29.90	70	26	29.79	26	25	87	N. W.	41	8.40	....	Nimbus	1-4	Cumulus	1-2	N. W.	....	....	.03	....	....	
	2 0 p. m.	29.96	68	26	29.86	26	25	87	N. W.	44	9.68	....	0	0	Cumulus	3-4	N. W.	....	....	....	....	....	
	5 23 p. m.	30.05	65	24	29.96	24	23	86	N. W.	45	10.12	....	0	0	Cumulus	4-4	N. W.	....	....	....	27	24	
	9 0 p. m.	30.11	66	24	30.01	24	23	86	N. W.	35	6.12	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
Thursday, April 17	1 23 a. m.	30.19	60	22	30.11	22	21	86	N. W.	22	2.42	....	0	0	Cumulus	4-4	N. W.	....	10.00 p. m.	.00	....	....	
	7 0 a. m.	30.30	68	24	30.20	24	22	73	N.	14	.98	809	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	10 23 a. m.	30.29	69	30	30.18	30	28	78	W.	5	.12	....	0	0	Cirrus	4-4	....	....	....	....	...	....	
	2 0 p. m.	30.24	67	30	30.14	30	29	89	S. W.	14	.98	....	0	0	Cirrus	4-4	....	....	....	....	....	....	
	5 23 p. m.	30.10	64	28	30.02	28	27.5	94	S.	19	1.80	....	Nimbus	4-4	....	....	....	3.20 p. m.	....	.02	31	20	
	9 0 p. m.	29.97	62	27	29.88	27	26.5	94	S.	25	3.12	....	Nimbus	4-4	....	....	....	....	....	....	....	....	Heavy snow.
Friday, Apr. 18	1 23 a. m.	29.84	58	29	29.77	29	28.5	94	S.	24	2.88	....	Nimbus	4-4	....	....	....	....	....	.20	...	....	
	7 0 a. m.	29.66	67	31	29.56	31	30.5	94	S. W.	17	1.44	428	Nimbus	4-4	....	....	....	....	....	....	....	....	Snow.
	10 23 a. m.	29.64	64	34	29.55	34	33.5	94	S. W.	8	.32	....	Stratus	1-2	Cirrus	1-2	W.	....	9.40 a. m.	.17	....	....	Melted snow.
	2 0 p. m.	29.63	69	34	29.53	34	33.5	94	W.	9	.40	....	Fog	4-4	....	....	....	....	....	....	....	....	
	5 23 p. m.	29.66	70	29	29.56	29	28	88	N. W.	22	2.42	....	0	0	Cumulus	4-4	N. W	....	....	....	35	28	
	9 0 p. m.	29.68	71	29	29.57	29	28	88	N. W.	6	.18	....	0	0	Cumulus	4-4	N. W.	....	....	....	....	....	

Meteorological record for the five days ending April 23, 1873.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Saturday, April 19..	1 23 a. m.	29.67	62	27	29.59	27	26	88	N.	7	.24	....	0	0	Cumulus	4-4	N. W.	....	....	....	....	....	
	7 0 a. m.	29.63	68	28	29.53	28	27	88	N.	4	.08	231	Stratus..	2-4	Cirrus ..	2-4	S. W.	....	....	....	....	....	
	10 23 a. m.	29.62	70	30	29.52	30	28	78	N. E.	9	.40	....	0	0	Cumulus	4-4	N. E.	....	....	....	....	....	
	2 0 p. m.	29.53	71	30	29.42	30	29.5	94	E.	24	2.88	....	Nimbus.	4-4	....	....		....	....	....	....	....	Heavy snow.
	5 23 p. m.	29.45	60	27	29.35	27	26.5	94	E.	34	5.78	....	Nimbus	4-4	....	....	......	1.30 p. m.	....	.23	31	26	Melted snow.
	9 0 p. m.	29.32	70	26	29.22	26	26	100	E.	44	9.68	...	Nimbus.	4-4	....	....	......	....	....	....	....	....	Heavy snow.
Sunday, April 20...	1 23 a. m.	29.15	58	26	29.08	26	25.5	93	E.	41	8.40	...	Nimbus.	4-4	....	....	......	....	....	.43	....	....	Melted snow.
	7 0 a. m.	29.10	69	26	29.00	26	25	87	N.	46	10.58	789	Nimbus.	4-4	....	....	......	....	....	....	....	....	Light snow.
	10 23 a. m.	29.16	67	24	29.06	24	22	73	N.	48	11.52	....	0	0	Cumulus	4-4	N.	....	8.40 a. m.	.07	....	....	Melted snow.
	2 0 p. m.	29.26	68	24	29.16	24	22	73	N. W.	52	13.52	....	0	0	Cumulus	4-4	N. W.	....	....	....	....	....	
	5 23 p. m.	29.39	68	22	29.29	22	20	72	N. W.	38	7.22	....	0	0	Cirrus ..	2-4	S. W.	....	....	....	27	22	
	9 0 p. m.	29.52	68	21	29.42	21	20	85	N. W.	31	4.80	....	0	0	0	0	0	....	....	....	....	....	
Monday, April 21 ..	1 23 a. m.	29.65	55	16	29.58	16	14	65	N.	26	3.38	....	0	0	0	0	0	....	....	....	....	....	
	7 0 a. m.	29.76	70	17	29.65	17	15	67	N.	11	.60	868	0	0	0	0	0	....	....	....	....	....	
	10 23 a. m.	29.79	63	22	29.70	22	20	72	N. W.	6	.18	....	0	0	0	0	0	....	....	....	....	....	
	2 0 p. m.	20.82	69	25	29.72	25	23	74	N. W.	8	.32	....	0	0	0	0	0	....	....	....	....	....	
	5 23 p. m.	29.82	68	21	29.72	21	19	71	N. W.	15	1.12	....	0	0	0	0	0	....	....	....	25	15	
	9 0 p. m.	29.87	68	18	29.77	18	17	84	N.	21	2.20	....	0	0	Cumulus	3-4	N.	....	....	....	....	....	
Tuesday, April 22..	1 23 a. m.	29.89	56	12	29.82	12	11	80	N.	28	3.92	....	0	0	Cumulus	1-4	N.	....	....	....	....	....	
	7 0 a. m.	29.94	71	14	20.83	14	12	63	N.	35	6.12	444	0	0	0	0	0	....	....	....	....	....	
	10 23 a. m.	29.91	67	17	29.81	17	15	67	N.	33	5.44	....	0	0	0	0	0	....	....	....	....	....	
	2 0 p. m.	29.89	64	18	29.80	18	16	68	N.	36	6.48	...	0	0	0	0	0	....	....	....	....	....	
	5 23 p. m.	29.85	64	17	29.76	17	15	67	N.	34	5.78	....	0	0	0	0	0	....	....	....	18	11	
	9 0 p. m.	29.82	67	15	29.72	15	13	64	N.	34	5.78	....	0	0	0	0	0	....	....	....	....	....	
Wednesday, Apr. 23	1 23 a. m.	29.74	55	14	29.67	14	13	81	N.	33	5.44	....	0	0	Cumulus	2-4	N.	....	....	....	....	....	
	7 0 a. m.	29.71	60	15	29.63	15	13	64	N. W.	32	5.12	833	0	0	Cumulus	3-4	N. W.	....	....	....	....	....	
	10 23 a. m.	29.72	63	18	29.63	18	16	68	N. W.	27	3.64	....	0	0	Cumulus	4-4	N. W.	7.40 a. m.	....	....	....	....	Snow, inappreciable.
	2 0 p. m.	29.73	66	22	29.64	22	20	72	W.	7	.24	....	0	0	Cumulus	3-4	W.	....	....	....	....	....	
	5 23 p. m.	29.73	65	26	29.64	26	25	87	S. W.	3	.04	....	0	0	Cumulus	4-4	S. W.	....	10.30 p. m.	....	26	13	
	9 0 p. m.	29.79	66	18	29.69	18	17	84	E.	5	.12	....	0	0	Cirrus ..	3-1	S.	....	....	....	....	....	Wind E. N. E.

Meteorological record for the five days ending April 28, 1873.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Thursday, April 24.	1 23 a. m.	29.85	62	15	29.76	15	14.5	91	E.	12	.72	....	0	0	Cirrus ..	1-2	S.	....	....	....	....	....	
	7 0 a. m.	29.83	68	21	29.73	21	20.5	92	E.	24	2.88	271	Nimbus	2-4	Cirrus ..	2-4	......	....	....	....	....	....	Light snow; wind E. N. E.
	10 23 a. m.	29.84	67	29	29.74	29	28	88	E.	31	4.80	....	Stratus	1-2	Cirrus ..	1-2	E.	Night...	9.00 a. m.	.02	....	....	Melted snow.
	2 0 p. m.	29.87	65	33	29.78	33	32	89	E.	29	4.20	....	Stratus	4-4	....	....	......	....	....	...	....	....	Wind E. N. E.
	5 23 p. m.	29.95	69	32	29.85	32	31.5	94	E.	24	2.88	....	Stratus	1-2	Cirrus ..	1-2	E.	....	....	....	33	14	
	9 0 p. m.	29.99	67	31	29.89	31	30.5	94	E.	23	2.64	....	Stratus	2-4	Cirrus ..	2-4	E.	....	....	....	....	....	Cirro-stratus; wind E. N. E.
Friday, April 25....	1 23 a. m.	30.07	58	27	30.00	27	26	88	E.	25	3.12	....	Stratus	4-4	....	....	......	....	....	....	....	....	
	7 0 a. m.	30.12	62	28	30.03	28	27	88	E.	29	4.20	622	0	0	Cirrus ..	1-4	E.	....	....	....	....	....	Cirrus from E. N. E.
	10 23 a. m.	30.18	64	31	30.09	31	30.5	94	E.	28	3.92	....	Fog.....	4-4	....	....	......	....	....	....	....	....	
	2 0 p. m.	30.23	67	33	30.13	33	32.5	94	E.	25	3.12	....	Stratus	4-4	....	....	......	....	....	....	....	....	
	5 23 p. m.	30.29	69	30	30.18	30	29.5	94	E.	16	1.28	....	0	0	0	0	0	....	....	....	33	26	
	9 0 p. m.	30.35	71	29	30.24	29	28.5	94	E.	15	1.12	....	0	0	0	0	0	....	....	....	....	....	
Saturday, April 26.	1 23 a. m.	30.39	59	25	30.30	25	24.5	93	E.	16	1.28	....	0	0	0	0	0	....	....	....	....	....	
	7 0 a. m.	30.42	63	27	30.33	27	26	88	E.	14	.98	421	0	0	0	0	0	....	....	....	....	....	
	10 23 a. m.	30.43	65	32	30.33	32	30	79	N. E.	14	.98	....	0	0	0	0	0	....	....	....	....	....	
	2 0 p. m.	30.44	68	33	30.34	33	31	80	N. E.	16	1.28	....	0	0	0	0	0	....	....	....	....	....	
	5 23 p. m.	30.43	67	31	30.33	31	29	78	N. E.	17	1.44	....	0	0	0	0	0	....	....	....	34	23	
	9 0 p. m.	30.45	66	29	30.35	29	27	77	N. E.	28	3.92	....	0	0	0	0	0	....	....	....	....	....	
Sunday, April 27 ...	1 23 a. m.	30.42	56	27	30.35	27	26	88	N. E.	25	3.12	....	0	0	0	0	0	....	....	....	....	....	
	7 0 a. m.	30.40	59	29	30.32	29	28	88	N. E.	23	2.64	512	0	0	0	0	0	....	....	....	....	....	
	10 23 a. m.	30.41	63	33	30.32	33	31	80	N. E.	24	2.88	....	0	0	0	0	0	....	....	....	....	....	
	2 0 p. m.	30.40	68	34	30.30	34	32	79	N. E.	25	3.12	....	0	0	0	0	0	....	....	....	....	....	
	5 23 p. m.	30.35	69	32	30.24	32	30	79	N. E.	24	2.88	....	0	0	Cirrus ..	4-4	N. E.	....	....	....	34	26	Cirro-cum.
	9 0 p. m.	30.34	69	31	30.23	31	30	89	N. E.	23	2.64	....	0	0	Cirrus ..	1-2	N. E.	....	....	....	....	....	
Monday, April 28..	1 23 a. m.	30.28	58	28	30.20	28	27	88	N. E.	36	6.48	....	Stratus	4-4	....	....	......	....	....	....	....	....	Wind E. N. E.
	7 0 a. m.	30.23	64	27	30.14	27	26	88	N. E.	38	7.22	651	Stratus	4-4	....	....	......	....	....	....	....	....	Do.
	10 23 a. m.	30.25	65	29	30.16	29	28	88	N. E.	36	6.48	....	Stratus	4-4	....	....	......	Night...	10.00 a. m.	....	....	....	Light snow; inappreciable.
	2 0 p. m.	30.21	67	31	30.11	31	30	89	N. E.	37	6.84	....	0	0	Cumulus	4-4	N. E.	....	....	....	....	....	
	5 53 p. m.	30.22	62	27	30.13	27	25	76	N. E.	41	8.40	....	0	0	Cumulus	4-4	N. E.	....	....	....	31	26	
	9 0 p. m.	30.23	65	26	30.14	26	24	75	N.	46	10.58	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	

Meteorological record for the five days ending May 3, 1873.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Tuesday, April 29..	1 23 a. m.	30. 20	58	25	30. 13	25	23	74	N.	53	14. 04	....	0	0	Cumulus	4-4	N.						
	7 0 a. m.	30. 18	63	23	30. 09	23	21	73	N.	38	7. 22	1042	0	0	Cumulus	4-4	N.						
	10 23 a. m.	30. 18	62	25	30. 09	25	23	74	N.	39	7. 60	....	0	0	Cumulus	4-4	N.						A few flakes of of snow.
	2 0 p. m.	30. 14	64	26	30. 05	26	24	75	N.	37	6. 84	....	0	0	Cumulus	4-4	N.						
	5 23 p. m.	30. 08	60	26	30. 00	26	24	75	N.	39	7. 60	....	0	0	Cumulus	4-4	N.				27	22	
	9 0 p. m.	30. 04	64	26	29. 95	26	24	75	N.	41	8. 40	....	0	0	Cumulus	4-4	N.						
Wednesday, Apr. 30	1 23 a. m.	29. 96	57	26	29. 89	26	25	87	N.	41	8. 40	....	0	0	Cumulus	4-4	N.						
	7 0 a. m.	29. 86	64	26	29. 77	26	25	87	N.	43	9. 24	951	Nimbus.	4-4									Snow.
	10 23 a. m.	29. 84	65	29	29. 75	29	28	88	N.	38	7. 22	....	Nimbus.	4-4				Night.		.03			Melted snow.
	2 0 p. m.	29. 84	69	30	29. 74	30	29	89	N.	36	6. 48	....	Nimbus.	4-4									Snow.
	5 23 p. m.	29. 81	65	30	29. 72	30	28	78	N.	37	6. 84	....	0	0	Cirrus...	1-4	N. E.		4.10 p. m.	.02	31	24	Melted snow.
	9 0 p. m.	29. 81	62	29	29. 72	29	27	77	N.	37	6. 84	....	0	0	0	0	0						
Thursday, May 1...	1 23 a. m.	29. 80	59	26	29. 72	26	25	87	N.	32	5. 12	....	0	0	0	0	0						
	7 0 a. m.	29. 80	68	27	29. 70	27	25	76	N.	31	4. 80	861	0	0	0	0	0						
	10 23 a. m.	29. 81	67	29	29. 71	29	28	88	N.	32	5. 12	....	0	0	Cirrus...	1-4	N. E.						Cirro-cumulus.
	2 0 p. m.	29. 83	70	30	29. 72	30	29	89	N.	32	5. 12	....	0	0	Cumulus	3-4	N.						
	5 23 p. m.	29. 83	65	28	29. 74	28	27	88	N.	36	6. 48	....	0	0	Cumulus	4-4	N.				30	25	
	9 0 p. m.	29. 85	65	28	29. 76	28	27	88	N.	35	6. 12	....	0	0	Cumulus	4-4	N.						
Friday, May 2......	1 23 a. m.	29. 84	58	26	29. 77	26	24	75	N.	57	16. 24	....	0	0	Cumulus	4-4	N.						
	7 0 a. m.	29. 88	71	19	29. 77	19	17	69	N.	35	6. 12	901	0	0	Cumulus	4-4	N.						
	10 23 a. m.	29. 86	63	21	29. 77	21	19	71	N.	34	5. 78	....	0	0	Cumulus	4-4	N.						Few flakes of snow,(inapp.)
	2 0 p. m.	29. 86	64	23	29. 77	23	21	73	N.	32	5. 12	...	0	0	Cumulus	4-4	N.						
	5 23 p. m.	29. 88	65	23	29. 79	23	22	73	N.	31	4. 80	....	0	0	Cumulus	4-4	N.				28	19	
	9 0 p. m.	29. 87	66	23	29. 75	23	21	73	N.	30	4. 50	....	0	0	Cumulus	4-4	N.						
Saturday, May 3...	1 23 a. m.	29. 85	56	21	29. 78	21	19	71	N.	32	5. 12	....	0	0	Cumulus	2-4	N.						
	7 0 a. m.	29. 88	66	21	29. 78	21	19	71	N.	29	4. 20	761	0	0	Cumulus	3-4	N.						
	10 23 a. .	29. 92	65	25	20. 83	25	23	74	N.	28	3. 92	....	0	0	Cumulus	4-4	N.						
	2 0 p. m.	29. 93	67	27	29. 83	27	26	88	N.	20	4. 20	....	0	0	Cumulus	4-4	N.						
	5 23 p. m.	29. 94	65	25	29. 85	25	24	87	N.	22	2. 42	....	0	0	Cumulus	4-4	N.				27	21	
	9 0 p. m.	29. 96	65	25	29. 87	25	24	87	N.	18	1. 02	....	0	0	Cumulus	4-4	N.						

Meteorological record for the five days ending May 8, 1873.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		Maximum.	Minimum.	
Sunday, May 4	1 23 a. m.	30.00	62	25	29.91	25	24	87	N.	16	1.28		0	0	Cumulus.	4-4	N.						
	7 0 a. m.	30.07	70	26	29.96	26	25	87	N. W.	13	.84	472	0	0	Cumulus.	4-4	N. W.						
	10 23 a. m.	30.11	70	29	30.00	29	27	77	N. W.	5	.12		0	0	Cumulus.	4-4	N. W.						
	2 0 p. m.	30.09	65	32	30.00	32	30	79	N. W.	7	.24		0	0	Cumulus.	4-4	N. W.						
	5 23 p. m.	30.11	71	31	30.00	31	30	89	W.	9	.40		0	0	Cumulus.	4-4	N. W.	5.05 p. m.	5.20 p. m.		32	25	L't snow, (inapp.)
	9 0 p. m.	30.11	63	29	30.02	29	28	88	W.	5	.12		0	0	Cumulus.	4-4	W.						
Monday, May 5	1 23 a. m.	30.10	58	29	30.03	29	28	88	W.	2	.02		0	0	Cumulus.	4-4	W.						
	7 0 a. m.	30.12	69	30	30.02	30	28	78	N.	1	.00	126	0	0	Cumulus.	4-4							
	10 23 a. m.	30.12	67	33	30.02	33	32	89	S. E.	5	.12		0	0	Cumulus.	4-4		7.10 a. m.	7.15 a. m.				Light hail.
	2 0 p. m.	30.11	69	34	30.01	34	33	89	S. E.	4	.08		0	0	Cumulus.	4-4							
	5 23 p. m.	30.10	70	31	29.99	31	30	89	S. E.	6	.18		0	0	Cumulus.	4-4	S. E.				34	29	
	9 0 p. m.	30.08	65	29	29.99	29	28	88	S. E.	17	1.44		0	0	Cumulus.	4-4	S. E.						
Tuesday, May 6	1 23 a. m.	30.04	59	25	29.96	25	24	87	S. E.	16	1.28		0	0	Cumulus.	4-4	S. E.						
	7 0 a. m.	30.00	66	27	29.90	27	26	88	S. E.	22	2.42	267	0	0	Cumulus.	4-4	S. E.						
	10 23 a. m.	29.95	63	30	29.86	30	29	89	S. E.	23	2.64		0	0	Cumulus.	4-4	S. E.						
	2 0 p. m.	29.92	63	31	29.83	31	30	89	S. E.	24	2.88		Stratus.	4-4									
	5 23 p. m.	29.88	64	30	29.78	30	28	78	S. E.	24	2.88		Stratus.	4-4				4.35 p. m.		.01	32	25	Melted snow.
	9 0 p. m.	29.86	65	27	29.77	27	26	88	E.	32	5.12		Stratus.	4-4									Light snow.
Wednesday, May 7	1 23 a. m.	29.76	58	26	29.69	26	25	87	E.	30	4.50		Stratus.	4-4						.01			Melted snow.
	7 0 a. m.	29.71	65	30	29.62	30	29	89	E.	31	4.80	677	Stratus.	4-4									L't snow, (inapp.)
	10 23 a. m.	29.70	71	31	29.59	31	30	89	E.	22	2.43		Stratus.	4-4					7.20 p. m.				
	2 0 p. m.	29.68	71	36	29.57	36	34	80	N. E.	23	2.64		0	0	Cumulus.	4-4	N. E.						
	5 23 p. m.	29.66	68	33	29.56	33	30	70	N. E.	16	1.28		0	0	Cirrus.	4-4	N. E.				36	25	Cirro-cumulus.
	9 0 p. m.	29.67	68	31	29.57	31	29	78	N. E.	12	.72		Stratus.	2-4	Cirrus.	2-4	N. E.						
Thursday, May 8	1 23 a. m.	29.64	59	31	29.56	31	30	89	E.	10	.50		Stratus.	2-4									
	7 0 a. m.	29.60	66	32	29.51	32	31	89	E.	6	.18	378	Stratus.	4-4									
	10 23 a. m.	29.60	69	35	29.50	35	34	89	S. E.	7	.24		Fog	4-4									
	2 0 p. m.	29.60	69	39	29.50	39	37	81	S. E.	5	.12		Nimbus	2-4	Cumulus.	2-4	S. E.						L't flurries of snow.
	5 23 p. m.	29.60	70	36	29.50	36	34	80	S. E.	7	.24		0	0	Cumulus.	4-4	S. F.	12.40 p. m.	3.30 p. m.	.01	40	30	Melted snow.
	9 0 p. m.	29.64	70	32	29.54	32	31	89	S. E.	8	.32		0	0	Cumulus.	4-4	S. E.						

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'd.	Ended.		Maximum.	Minimum.	
Friday, May 9	1 23 a. m.	29.64	58	31	29.57	31	30	89	E.	8	.32	....	0	0	Cumulus	4-4	E.	....	....	....	....	....	
	7 0 a. m.	29.66	59	31	29.58	31	29	78	E.	15	1.12	181	Stratus	2-4	Cirrus	2-4	E.	....	....	....	....	....	Wind E. N. E.
	10 23 a. m.	29.70	68	34	29.60	34	32	79	E.	12	.72	....	Stratus	2-4	Cirrus	2-4	E.	....	....	....	....	....	
	2 0 p. m.	29.71	65	36	29.62	36	35	90	E.	11	.60	....	Stratus	2-4	Cirrus	2-4	E.	....	....	....	....	....	Do.
	5 23 p. m.	29.72	71	33	29.61	33	32	89	E.	8	.32	....	Stratus	4-4	....	....	....	4.30 p. m.	5.10 p. m.	....	37	31	Light snow.
	9 0 p. m.	29.75	70	32	29.65	32	31	89	E.	8	.32	....	Stratus	2-4	Cirrus	2-4	E.	....	....	....	....	....	Wind E. N. E.
Saturday, May 10	1 23 a. m.	29.73	61	31	29.65	31	30	89	E.	6	.18	....	Stratus	2-4	Cirrus	2-4	E.	....	....	....	....	....	
	7 0 a. m.	29.75	71	32	29.64	32	31	89	N. E.	7	.24	224	Stratus	2-4	Cirrus	2-4	N. E.	....	....	....	....	....	
	10 23 a. m.	29.74	67	34	29.64	34	32	79	N.	6	.18	....	0	0	Cumulus	2-4	N.	....	....	....	....	....	
	2 0 p. m.	29.73	70	33	29.63	33	31	80	N.	5	.12	....	0	0	Cumulus	1-4	N.	....	....	....	....	....	
	5 23 p. m.	29.71	68	33	29.61	33	32	89	N.	9	.40	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	9 0 p. m	29.71	70	30	29.61	30	29	89	N.	18	1.62	....	Nimbus	3-4	Cumulus	1-4	N.	....	....	....	35	30	
Sunday, May 11	1 23 a. m.	29.65	60	30	29.57	30	29	89	N. W.	13	.84	....	Stratus	4-4	....	....	....	8.50 p. m.	....	....	....	....	Light snow.
	7 0 a. m.	29.58	60	31	29.50	31	30	89	N. W.	10	.50	257	Nimbus	4-4	....	....	....	....	....	....	....	....	Do.
	10 23 a. m.	29.59	65	33	29.50	33	32	80	N. W.	12	.72	....	Fog	4-4	....	....	....	....	8.10 a. m.	.01	....	....	Melted snow.
	2 0 p. m.	29.59	71	34	29.48	34	33	89	N.	13	.84	....	Stratus	4-4	....	....	....	....	....	....	....	....	
	5 23 p. m.	29.57	70	31	29.47	31	30	89	N.	15	1.12	....	Stratus	4-4	....	....	....	2.15 p. m.	....	....	34	30	Few drops rain.
	9 0 p. m.	29.58	71	31	20.47	31	30	89	N.	13	.84	....	Stratus	4-4	....	....	....	....	....	....	....	....	
Monday, May 12	1 23 a. m.	29.55	61	31	29.47	31	30.5	94	N. E.	16	1.28	....	Nimbus	4-4	....	....	....	....	....	.09	....	....	Melted snow.
	7 0 a. m.	29.54	69	32	29.44	32	31.5	94	N. E.	18	1.62	306	Nimbus	4-4	....	....	....	....	....	....	....	....	Light snow, wind E. N. E.
	10 23 a. m.	20.55	63	34	29.46	34	33	89	N. E.	22	2.42	....	Fog	4-4	....	....	....	....	7.40 a. m.	.05	....	....	Melted snow.
	2 0 p. m.	29.60	72	36	29.49	36	35	90	N. E.	24	2.88	....	Fog	....	....	....	....	....	....	....	....	....	Wind E. N. E.
	5 23 p. m.	29.63	69	34	29.53	34	33	89	N. E.	21	2.20	....	Stratus	3-4	....	....	....	....	....	....	37	30	
	9 0 p. m.	20.67	70	30	29.57	30	29	89	N. E.	23	2.64	....	Fog	4-4	....	....	....	....	....	....	....	....	
Tuesday, May 13	1 23 a. m.	29.65	59	28	29.57	28	75.5	94	N. E.	18	1.62	....	Fog	4-4	....	....	....	....	....	....	....	....	
	7 0 a. m.	29.66	69	30	29.56	30	30	100	N.	13	.84	512	Fog	4-4	....	....	....	....	....	....	....	....	
	10 23 a. m.	29.66	69	32	29.56	32	31	89	N.	15	1.12	....	Nimbus	3-4	Cirrus	1-4	N. W.	7.45 a. m.	....	.02	—	....	Melted snow.
	2 0 p. m.	29.65	70	33	29.55	33	32	89	N.	11	.60	....	Nimbus	3-4	Cumulus	1-4	N.	....	....	....	....	....	Snow.
	5 23 p. m.	29.65	70	32	29.55	32	31	89	N.	14	.98	....	Stratus	2-4	Cirrus	2-4	S. E.	....	3.25 p. m.	.02	34	27	Melted snow.
	9 0 p. m.	29.67	71	31	29.56	31	30.5	94	E.	14	.98	....	Fog	4-4	....	....	....	....	....	....	....	....	

Meteorological record for the five days ending May 18, 1873.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'd.	Ended.		Maximum.	Minimum.	
Wednesday, May 14	1 23 a. m.	29.65	60	29	29.57	29	28.5	94	N. E.	14	.98	..	Fog....	4-4	....	....	....	....	....	....	....	....	
	7 0 a. m.	29.62	69	30	29.52	30	30	100	N.	15	1.12	304	Fog....	4-4	....	....	....	....	....	....	....	....	
	10 23 a. m.	29.61	68	30	29.51	30	29	89	N.	35	6.12	....	Stratus	4-4	....	....	....	....	....	....	....	....	
	2 0 p. m.	29.57	60	31	29.50	31	30	89	N.	31	4.80	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	5 23 p. m.	29.60	68	27	29.50	27	25	76	N.	29	4.20	....	0	0	Cumulus	4-4	N.	....	....	....	32	27	
	9 0 p. m.	29.61	66	26	29.52	26	24	75	N.	41	8.40	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
Thursday, May 15..	1 23 a. m.	29.59	56	24	29.52	24	22	73	N.	42	8.82	..	Nimbus	4-4	....	....	....	....	....	....	....	....	
	7 0 a. m.	29.56	61	26	29.48	26	24	75	N.	28	3.92	784	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	10 23 a. m.	29.58	71	28	29.47	28	26	76	N.	25	3.12	....	0	0	Cumulus	3 4	N.	....	....	....	....	....	
	2 0 p. m.	29.57	70	30	29.47	30	28	78	N. W.	11	.60	....	0	0	Cumulus	1-2	N. W.	....	....	....	....	....	
	5 23 p. m.	29.58	69	30	29.48	30	28	78	N.	5	.12	....	Stratus	1-4	Cumulus	3-4	N.	....	....	....	31	24	
	9 0 p. m.	29.64	69	26	29.54	26	25	87	N.	8	.32	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
Friday, May 16	1 23 a. m	29.62	59	28	29.54	28	27	88	N.	12	.72	....	Nimbus	4-4	....	....	....	11.30 p. m.	....	.01	....	....	
	7 0 a. m.	29.64	66	30	29.55	30	29.5	94	N.	18	1.62	309	Nimbus	4-4	....	....	....	....	....	....	....	....	Heavy snow.
	10 23 a. m.	29.66	70	30	29.56	30	29.5	94	N.	22	2.42	....	Nimbus	1-4	Cirrus ..	3-4	....	....	....	.09	....	....	
	2 0 p. m.	29.69	69	29	29.59	29	28	88	N.	20	2.00	....	Stratus	4-4	....	....	....	....	....	....	....	....	Light snow.
	5 23 p. m.	29.72	70	28	29.62	28	27	88	N.	26	3.38	...	Stratus	4-4	....	....	....	....	....	.01	30	26	
	9 0 p. m.	29.75	68	29	29.65	29	28	88	N.	18	1.62	....	Nimbus	3-4	Cumulus	1-4	N.	....	....	....	....	....	Do.
Saturday, May 17..	1 23 a. m.	20.75	60	28	29.67	28	27	88	N.	17	1.44	...	....	4-4	....	....	....	....	....	.01	....	....	
	7 0 a. m.	29.77	66	30	29.67	30	29.5	94	N.	22	2.42	477	0	0	Cumulus	4-4	N.	....	....	....	....	....	Do.
	10 23 a. m.	29.80	70	30	29.70	30	29.5	94	N.	22	2.42	....	Nimbus	1-4	Cirrus ..	3-4	....	....	....	.01	....	....	
	2 0 p. m.	29.83	71	31	29.72	31	30	89	N.	21	2.20	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	Do.
	5 23 p. m.	29.84	69	30	29.74	30	29	89	N.	20	2.00	....	Nimbus	1-4	Cumulus	3-4	N.	....	....	.01	31	27	
	9 0 p. m.	29.86	71	30	29.77	30	29	89	N.	23	2.64	....	Nimbus	1-4	Cumulus	3-4	N.	....	....	....	....	....	Do.
Sunday, May 18....	1 23 a. m.	29.90	61	27	29.82	27	25	76	N.	21	2.20	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	7 0 a. m.	29.96	66	27	29.86	27	26	88	N.	19	1.80	501	0	0	Cumulus	4 4	N.	....	....	....	....	....	Do.
	10 23 a. m.	30.00	61	27	29.90	27	25	76	N.	21	2.20	....	0	0	Cumulus	4-4	N.	....	....	.01	....	....	Melted snow.
	2 0 p. m.	30.03	68	26	29.93	26	24	75	N.	16	1.28	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	5 23 p. m.	30.05	69	25	29.95	25	23	74	N.	15	1.12	....	0	0	Cumulus	4-4	N.	....	....	....	30	25	
	9 p. m.	30.10	71	25	29.99	25	23	74	N.	17	1.44	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	

Meteorological record for the five days ending May 23, 1873.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.		Maximum.	Minimum.	
Monday, May 19....	1 23 a. m.	30.12	68	23	30.02	23	22	86	N.	14	.98	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	7 0 a. m.	30.03	68	26	29.93	26	24	75	N.	16	1.28	416	0	0	Cumulus	4-4	N.	....	....	....	....	....	Light snow.
	10 23 a. m.	30.16	67	26	30.06	26	24	75	N.	18	1.62	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	2 0 p. m.	30.18	69	29	30.08	29	28	88	N.	15	1.12	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
	5 23 p. m.	30.19	69	28	30.09	28	26	76	N.	16	1.28	....	0	0	Cumulus	3-4	N.	....	....	....	29	23	
	9 0 p. m.	30.23	71	26	30.12	26	24	75	N.	16	1.28	....	Stratus..	1-2	Cirrus ..	1-2	N.	....	....	....	....	....	
Tuesday, May 20....	1 23 a. m.	30.21	58	29	30.14	29	28	88	N. W.	15	1.12	....	Stratus..	1-2	Cirrus ..	1-2	N.	....	....	....	....	....	
	7 0 a. m.	30.22	59	31	30.14	31	29	78	N. W.	14	.98	376	0	0	Cumulus	4-4	N. W.	....	....	....	....	....	Do.
	10 23 a. m.	30.24	64	32	30.15	32	30	79	N. W.	8	.32	....	Nimbus .	1-2	Cirrus ..	1-2	N.	Night...	....	.01	....	....	
	2 0 p. m	30.28	70	36	30.17	36	34	80	S. W.	4	.08	....	Stratus..	1-2	Cirrus ..	1-2	S. W.	....	....	....	....	....	
	5 23 p. m.	20.28	71	33	30.17	33	31	80	N. W.	3	.04	....	0	0	Cirrus ..	4-4	S. W.	....	4.20 p. m.	.02	38	26	Melted snow.
	9 0 p. m.	30.30	72	30	30.19	30	28	78	S. W.	1	.01	....	0	0	Cirrus ..	4-4	S. W.	....	....	....	....	....	
Wednesday, May 21	1 23 a. m.	30.28	59	29	30.20	29	27	77	S. W.	2	.02	....	0	0	Cirrus ..	4-4	......	....	....	....	....	....	
	7 0 a. m.	30.24	65	30	30.15	30	28	78	W.	4	.08	102	Stratus..	1-2	Cirrus ..	1-2	N.	....	....	....	....	....	
	10 23 a. m.	30.26	71	34	30.15	34	31	71	W.	8	.32	....	Stratus..	1-2	Cirrus ..	1-2	N.	....	....	....	....	....	
	2 0 p. m.	30.22	70	35	30.11	35	31	62	W.	8	.32	....	0	0	0	0	0	....	....	....	....	....	
	5 23 p. m.	30.20	69	34	30.09	34	31	71	W.	3	.04	....	0	0	Cirrus ..	1-4	N. W.	....	....	....	35	29	
	9 0 p. m.	30.18	71	32	30.07	32	30	79	S. W.	2	.02	....	Stratus..	1-2	Cirrus ..	1-2	N. W.	....	....	....	....	....	
Thursday, May 22..	1 23 a. m.	30.14	62	30	30.05	30	28	78	W.	3	.04	....	0	0	Cumulus	4-4	......	Night...	....	....	....	....	Light snow.
	7 0 a. m.	30.10	61	31	30.02	31	29	78	N.	21	2.20	198	Stratus..	1-2	Cirrus ..	1-2	N. W.	....	....	....	....	....	Do.
	10 23 a. m.	30.11	71	32	30.00	32	31	89	N.	23	2.64	....	Stratus..	3-4	Cumulus	1-4	N.	....	10.35 a. m.	.02	....	....	
	2 0 p. m	30.12	70	34	30.01	34	32	79	N.	28	3.92	....	Nimbus .	1-4	Cumulus	3-4	N.	....	....	....	....	....	
	5 23 p. m.	30.13	64	30	30.04	30	28	78	N.	34	5.78	....	0	0	Cumulus	4-4	N.	....	....	....	34	29	
	9 0 p. m.	30.16	67	28	30.06	28	26	76	N.	33	6.12	....	0	0	Cumulus	4-4	N.	....	....	....	....	....	
Friday, May 23......	1 23 a. m.	30.18	64	26	30.09	26	24	75	N. W.	33	5.44	....	0	0	Cumulus	4-4	N. W.	....	....	....	....	....	
	7 0 a. m.	30.23	70	27	30.12	27	25	76	N. W.	21	2.20	681	0	0	Cumulus	4-4	N. W.	....	....	....	....	....	
	10 23 a. m.	30.21	64	34	30.12	34	32	79	W.	18	1.62	....	0	0	Cirrus ..	4-4	N. W.	....	....	....	....	....	
	2 0 p. m.	30.17	65	37	30.08	37	36	90	S.	26	3.38	....	Nimbus .	4-4	....	....	......	....	....	....	....	....	Heavy snow.
	5 23 p. m.	30.11	64	32	30.02	32	31.5	94	S. W.	23	2.64	....	Nimbus .	4-4	....	....	......	1.20 p. m.	....	.06	37	26	Melted snow.
	9 0 p. m.	30.11	65	31	30.02	31	30	89	S. W.	31	4.80	....	Nimbus .	4-4	....	....	......	....	....	....	....	...	Light snow.

Meteorological record for the five days ending May 28, 1873.

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comme'd.	Ended.		Maximum.	Minimum.	
Saturday, May 24	1 23 a. m.	30.09	60	32	30.02	32	31.5	94	S. W.	23	2.64		Nimbus	4-4						.05			Melted snow.
	7 0 a. m.	30.01	60	32	29.93	32	31.5	94	S. W.	23	2.64	593	Fog	4-4									Light snow.
	10 23 a. m.	30.00	63	33	29.91	33	33	100	S. W.	21	2.20		Fog	4-4					7.20 a. m	.01			
	2 0 p. m.	20.99	71	34	29.88	34	33.5	94	S. W.	22	2.42		Fog	4-4									
	5 23 p. m.	29.99	70	32	29.89	32	32	100	S. W.	27	3.64		Fog	4-4							35	31	
	9 0 p. m.	30.01	66	31	29.91	31	30.5	94	W.	33	5.44		Stratus	4-4									
Sunday, May 25	1 23 a. m.	30.05	61	31	29.97	31	30	89	N. W.	32	5.12		Stratus	4-4									
	7 0 a. m.	30.16	69	32	30.06	32	31	89	N. W	32	5.12	653	Nimbus	4-4									Light snow.
	10 23 a. m.	30.22	70	33	30.11	33	32	89	N. W.	27	3.64		Stratus	4-4				Night	8.15 a. m	.01			Melted snow.
	2 0 p. m.	30.27	67	36	30.17	36	35	90	N. W.	18	1.62		Stratus	4-4									
	5 23 p. m.	30.30	71	33	30.19	33	32.5	94	N. W.	17	1.44		Fog	4-4							36	31	
	9 0 p. m.	30.32	64	30	30.23	30	29.5	94	W.	18	1.62		Stratus	4-4									
Monday, May 26	1 23 a. m.	30.28	57	29	30.21	29	28	88	S. W.	23	2.64		Fog	4-4									
	7 0 a. m.	30.19	60	32	30.11	32	31	89	S. W.	29	4.20	481	Fog	4-4									
	10 23 a. m.	30.19	66	33	30.09	33	32.5	94	S. W.	29	4.20		Fog	4-4									
	2 0 p. m.	30.12	66	34	30.02	34	33.5	94	S. W.	34	5.78		Fog	4-4									
	5 23 p. m.	30.08	67	33	29.98	33	32.5	94	S. W.	31	4.80		Fog	4-4				12.40 p. m.		.00	34	29	
	9 0 p. m.	30.05	63	31	29.96	31	30	89	W.	41	8.40		Nimbus	4-4									Heavy snow.
Tuesday, May 27	1 23 a. m.	30.06	58	31	29.99	31	30	80	N. W.	34	5.78		Stratus	4-4						.03			Melted snow.
	7 0 a. m.	30.09	62	31	30.00	31	30	89	N. W.	29	4.20	756	0	0	Cumulus	4-4	N. W.						Light snow.
	10 23 a. m.	30.12	69	33	30.02	33	32	89	N. W.	28	3.92		0	0	Cumulus	4-4	N. W.						
	2 0 p. m.	30.13	68	33	30.03	33	32	89	N.	26	3.38		0	0	Cumulus	4-4	N.						
	5 23 p. m.	30.15	70	31	30.04	31	30	89	N.	26	3.38		Nimbus	1-4	Cumulus	1-2	N.			.01	34	31	
	9 0 p. m.	30.18	67	31	30.08	31	30	89	N.	35	6.12		0	0	Cumulus	4-4	N.						
Wednesday, May 28	1 23 a. m.	30.19	59	31	30.11	31	30	89	N.	32	5.12		0	0	Cumulus	4-4	N.						
	7 0 a. m.	30.17	62	30	30.08	30	29	89	N	35	6.12	731	0	0	Cumulus	4-4	N.						Light snow.
	10 23 a. m.	30.18	66	31	30.08	31	30	89	N.	36	6.48		Stratus	4-4					7.15 a. m.	.01			Melted snow.
	2 0 p. m.	30.21	72	32	30.10	32	31	89	N.	17	1.44		Stratus	4-4									
	5 23 p. m.	30.17	71	32	30.06	32	31	89	N.	17	1.44		Fog	4-4							32	29	
	9 0 p. m.	30.17	70	31	30.06	31	30	89	N.	16	1.28		Fog	4-4									

STATION: ISLAND OF SAINT PAUL, BEHRING SEA.

Day and date of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	THERM.		Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.		Maximum.	Minimum.	
Thursday, May 29	1 23 a. m.	30.09	61	28	30.01	28	27.5	94	N.	15	1.12	....	Fog	4-4									
	7 0 a. m.	30.03	60	31	29.95	31	30.5	94	N.	14	.98	456	Fog	4-4									
	10 23 a. m.	30.04	70	35	29.93	35	34	89	N.	16	1.28	....	Stratus	4-4									
	2 0 p. m.	30.03	69	35	29.93	35	34	89	N.	11	.60	....	Stratus	4-4									
	5 23 p. m.	30.02	70	35	29.91	35	34	89	N. W.	6	.18	....	Stratus	1-2	Cirrus	1-2	N. W.				35	27	
	9 0 p. m.	30.02	71	34	29.91	34	33	89	N. W.	4	.08	....	Fog	4-4									
Friday, May 30	1 23 a. m.	29.98	60	32	29.90	32	31	89	N.	7	.24	....	Fog	4-4									
	7 0 a. m.	29.96	69	35	29.86	35	34	89	N.	10	.50	225	Fog	4-4									
	10 23 a. m.	29.91	63	37	29.82	37	36	90	N.	11	.60	....	Stratus	4-4									
	2 0 p. m.	29.92	65	37	29.88	37	36	90	N.	8	.32	....	Stratus	4-4									
	5 23 p. m.	29.93	68	33	29.83	33	32	89	N.	7	.24	....	Fog	4-4							37	32	
	9 0 p. m.	29.95	71	31	29.84	31	30	89	N.	9	.40	....	Fog	4-4									
Saturday, May 31	1 23 a. m.	29.93	61	30	29.85	30	29.5	94	N.	9	.40	....	Stratus	4-4									
	7 0 a. m.	29.93	64	33	29.84	33	32	89	N.	7	.24	214	Stratus	4-4									
	10 23 a. m.	29.97	66	38	29.87	38	36	81	N. E.	6	.18	....	Stratus	4-4									
	2 0 p. m.	30.02	71	41	29.91	41	38	73	N. E.	8	.32	....	Stratus	1-4	Cirrus	1-4	S. E.						
	5 23 p. m.	30.02	70	36	29.91	36	34	80	N. E.	11	.60	....	Stratus	1-2	Cirrus	1-4	S. E.				41	30	
	9 0 p. m.	30.05	70	34	29.94	34	33	89	N. E.	8	.32	....	Fog	4-4									

PAPER 15.

REPORT OF METEOROLOGICAL OBSERVATIONS MADE AT MOUNT WAS INGTON, NEW HAMPSHIRE, DURING THE MONTHS OF MAY AND JUN 1873.

WAR DEPARTMENT, OFFICE CHIEF SIGNAL-OFFICER,
DIVISION OF TELEGRAMS AND REPORTS FOR
BENEFIT OF COMMERCE AND AGRICULTURE,
Washington, D. C., August 15, 1873.

SIR: I have the honor to submit the following detailed reports of the special meteo ological observations made in compliance with your instructions, at Mount Washin ton, New Hampshire, from May 1 to June 30, 1873. Two stations were occupied du ing May, and four during the month of June, and, in addition to their records, the re ular observations made for the same period at Portland, Me., are given for purposes comparison.

Instruments used at the several stations.

NO. 1.—SUMMIT.

Barometer No. 1797, (Green's;) instrumental error, —.005.
One extra barometer; not used.
Two standard thermometers, (Signal-Service pattern, Green's.)
One maximum and three minimum thermometers, (Green's.)
One standard hygrometer, (Signal-Service model, Green's.)
Two Robinson anemometers, (Signal-Service model,) with electrical attachments f self-registration.
Two wind-vanes, (Signal-Service model.)
One rain-gauge, (Signal-Service model.)

NO. 2.—RAILWAY-CAR STATIONED ABOVE JACOB'S LADDER.

One barometer, No. 184, (Green's;) instrumental error, —.028.
One extra barometer; not used.
Two standard thermometers, (Signal-Service model, Green's.)
Two hygrometers, (Signal-Service model, Green's.)
One Robinson anemometer, (Signal-Service model.)
One wind-vane, (Signal-Service model.)
One rain-gauge, (Signal-Service model.)

NO. 3.—WAUMBACK HOUSE.

One barometer, No. 186, (Green's,) instrumental error, —.011.
One extra barometer; not used.
Two standard thermometers, (Signal-service model, Green's.)
Two standard hygrometers, (Signal-service model, Green's.)
One Robinson anemometer.
One wind-vane, (Signal-Service model.)
One rain-gauge, (Signal-Service model.)

NO. 4.—BASE OF MOUNTAIN.

One barometer, (Green's,) No. 139; instrumental error, —.010.
One extra barometer; not used.
Two standard thermometers, (Signal-Service model, Green's.)
Two standard hygrometers, (Signal-Service model, Green's.)
One Robinson anemometer, with electrical attachment and standard Signal-Servic register complete.
One wind-vane, (Signal-Service model.)
One rain-gauge, (Signal-Service model.)

The barometers were carefully compared with each other after arrival at the mount ain, as shown in Sergeant Thornett's report, Paper "D," and also, after their return t this office, with the standard instrument. As the result of the latter comparison th errors of the barometers used at stations Nos. 2 and 3 were found to be as follows barometer No. 184, —.028; barometer No. 186, —.011. Barometer No. 186 was turne ver to the observer in charge of the summit-station in exchange for a defective baromter of his, and therefore its final error has not been determined.

Papers A, B, and C show the instructions given the several observers; Paper D, the pecial report of Sergeant Thornett, and Papers E and F his monthly journals for May nd June. Paper G is the journal of Sergeant Seyboth at the base station; Papers H nd I, the record of minute observations for May and June; Papers K and L, the record f the hourly observations for the same period, and Paper M the Portland observaions, of which those made at 8.02 a. m., 5.02 p. m., and 11.27 p. m., were synchronous vith those made at Mount Washington at 7.57 a. m., 4.57 p. m., and 11.22 p. m.

Very respectfully, &c.,

H. W. HOWGATE,
Second Lieut. and Bvt. Capt. U. S. A., Acting Signal-Officer and Assistant.

Bvt. Brig. Gen. ALBERT J. MYER,
Chief Signal-Officer, U. S. A., Washington, D. C.

A.

WAR DEPARTMENT, OFFICE CHIEF SIGNAL-OFFICER,
DIVISION OF TELEGRAMS AND REPORTS FOR
BENEFIT OF COMMERCE AND AGRICULTURE,
Washington, April 19, 1873.

SERGEANT: Two series of special observations will be made during the month of May t your station, in connection with a station at the base under charge of Sergeant Seyoth. These observations will be made at the times and in the manner set forth in the nclosed copy of Sergeant Seyboth's instructions, which will apply to your station as vell, so far as the making and recording of the observations are concerned. The exerience gained by you last year in connection with a similar enterprise will enable you o avoid many difficulties encountered at that time, and to render valuable assistance o the party at base. Your attention is called especially to the instructions in reference o the *minute* observations to be made for one hour each day, and the times indicated. our regular reports will be kept up as usual.

Very respectfully,

H. W. HOWGATE,
Second Lieut. and Bvt. Capt. U. S. A., Acting Signal-Officer and Assistant.

Sergt. A. R. THORNETT,
Mount Washington, N. H.

B.

WAR DEPARTMENT, OFFICE CHIEF SIGNAL-OFFICER,
DIVISION OF TELEGRAMS AND REPORTS FOR
BENEFIT OF COMMERCE AND AGRICULTURE,
Washington, D. C., April 19, 1873.

SERGEANT: A series of observations at the base of Mount Washington, in connection vith the station on the summit of the mountain, will be made under your supervision uring the month of May next, beginning at 6 a. m. of the 1st, and terminating at 1.57 p. m. of the 31st of the month.

Full observations of all instruments will be made daily at the following hours, (local ime:) 1 a. m., 2 a. m., 3 a. m., 4. a. m., 5 a. m., 6 a. m., 7 a. m., 7.57 a. m., 9 a. m., 10 a. m., 1 a. m., 12 m., 1 p. m., 2 p. m., 3 p. m., 4 p. m., 4.57 p. m., 6 p. m., 7 p. m., 8 p. m., 9 p. m., 0 p. m., 11.22 p. m., and 12 midnight, making twenty-four observations each day. hese observations will be the same in all respects as those taken at regular stations, nd will be entered in the usual manner upon Forms 4, which forms will be brought y you in person to this office, when ordered in, unless otherwise instructed. In addion to these full observations, a special series will be made of the barometer alone, t intervals of one minute for one hour daily.

From the 1st to the 10th days of the month, inclusive, these special observations wi begin at 8 a. m., and continue until 9 a. m.; from the 11th to the 20th days of tl month, inclusive, they will begin at 2 p. m., and continue until 3 p. m.; and from tl 21st to the 31st of the month, inclusive, will begin at 9 p. m. and terminate at 10 p. n

This series of observations will be kept distinct from that made hourly, and will l recorded on separate sheets of Forms 4. If it is found that there is not sufficient tin to fill up the Forms 4 on station, besides attending to the other necessary work, th part of the duty can be left until the return of your party to this city, but the "Orig nal Record" must be carefully kept, and the observations entered when made, a directed in the instructions heretofore issued from this office.

Especial pains must be taken to make these readings accurate to thousandths of a inch, and the temperature of the attached thermometer will be noted as an integr part of each observation. Upon your arrival at the base of the mountain you will a once establish telegraphic communication with the observer at the summit, using fo this purpose the cable over which the regular reports from that station are sent, an will, if practicable, keep this communication unbroken during the whole period yo remain on duty at the lower station.

You will personally compare the two barometers furnished you by this office wit the standard barometer at the summit-station, noting carefully the differences in thei readings, and reporting the same on the sheet of Forms 4, used for the first day's recor of observations. This comparison of barometers must be made before the time of mak ing the first observation. As the observations at both stations must be synchronou the time-pieces used will be carefully compared and adjusted before the observation are commenced, and after that time will be adjusted three times daily, by telegrapl at intervals of eight hours each, as arranged by you with observer in charge of summit station. Two minutes before the time for taking each hourly observation, you wi call up the observer at the summit-station, and after getting his acknowledgmen will prepare for taking the observation. The signal for reading the barometer will b sent from your station one minute before the time for each reading, and the instru ments will be read in the following order:

1. Attached thermometer.
2. Barometer.
3. Exposed thermometer.
4. Hygrometer.
5. Anemometer.
6. Wind-vane.
7. Rain-gauge.

The two assistants detailed for duty with you have been selected for this work o account of their previous good conduct and the ability they have shown in the man agement of regular stations. It is believed that either of them can safely be truste to make the observations alone during a part of each twenty-four hours, and thu lessen your own labors materially. You will therefore divide the day into three tour of eight hours each, taking one tour yourself, and assigning one to each of your assist ants. The responsibility of keeping the records, of insuring the accuracy of the obser vations, and of making such reports of them to this office as may be called for, wil devolve upon you, and the work must be done with this fact kept constantly in view

The following instruments and supplies will be furnished you at this office, and mus be taken to the station under your immediate charge:

2 barometers.
2 thermometers.
2 hygrometers.
1 anemometer. (self-registering.)
1 wind-vane, (small.)
1 rain-gauge.
1 box-sounder.
15 cups Daniell's battery.
200 feet insulated wire.
30 pounds sulphate of copper.
Full supply of blank books, Forms 4, stationery, &c.

The wind-vane and anemometer can be exposed on the roof of the "Marshfield" House, and the rain-gauge in an open space near Marshfield, where it will b readily accessible at all hours. The other meteorological instruments will be ex posed in the telegraph-office, where the telegraph instrument can be put in the summi circuit for exchange of signals or other communications by means of the small switc in the office. Board for yourself and assistants can be had from Mr. Michael Mul larvy, in charge of railroad-station. Mr. Aiken, of the Mount Washington Railroad has kindly given this office permission to use such facilities at the station as may b necessary to carry out your instructions in this matter. You will be careful to leave th buildings and other property of the railroad company occupied or used by yourself and party in as good condition as you found them. On the completion of the duties se orth in this communication, you will remain at your station until orders and transpor- ation are received from this office, but need not continue the observations after the 1st of May, unless otherwise instructed before that date. Should one or more of your arty become sick, or in any way become unfit for duty, the fact, with nature and prob- ble duration of illness or injury, will be promptly reported by telegraph to this office, n order that suitable action may be taken about supplying additional assistance, if ecessary. The value of these special observations depends wholly upon their being nade synchronously at the upper and lower stations, and especial attention must be aid to the accurate comparison of time, as before ordered.

Very respectfully,

H. W. HOWGATE,
Second Lieut. and Bvt. Capt. U. S. A., Acting Signal-Officer and Assistant.

Sergt. ROBERT SEYBOTH,
Washington, D. C.

C.

WAR DEPARTMENT, OFFICE CHIEF SIGNAL-OFFICER,
DIVISION OF TELEGRAMS AND REPORTS
FOR THE BENEFIT OF COMMERCE,
Washington, D. C., May 24, 1873.

SERGEANT: The special series of observations ordered for the month of May at your tation, and that at the base, as per inclosed copy of instructions, dated April 19, 1873, vill be continued during the month of June at the same hours and times as set forth herein at both stations, and also at the two new ones to be established June 1, as per rder of this date. All these stations will be under your general supervision, and you vill be held responsible for their successful management and working. The two new nes will be connected by telegraph with the present stations, putting the instruments ent for them on the line, there being battery enough now there, it is believed, to vork all satisfactorily.

As it is desirable to have the stations as nearly equidistant from each other as prac- icable, it is suggested that No. 2 be put at the "Gulf tank," and No. 3 at the "Waum- ack," if it can be done so as to work properly. If this cannot be done, you will do he next best that is practicable, and report your action, with locations selected, to his office. You will see that full and complete records are kept of all observations at he several stations, and that they are brought to this office as per original instructions. 'he *minute* observations will be made at the same hours, and on the same days of the nonth, as ordered for May.

Very respectfully,

H. W. HOWGATE,
Second Lieut. and Bvt. Capt. U. S. A., Acting Signal-Officer and Assistant.

Sergt. A. R. THORNETT,
Mount Washington, N. H.

D.

SUMMIT OF MOUNT WASHINGTON, NEW HAMPSHIRE,
June 5, 1873.

SIR: Acting under instructions from the Chief Signal-Officer, I made application, in ne latter part of last month, to Mr. Walter Aiken, of the Mount Washington Railroad ompany, for permission to occupy two points on Mount Washington, New Hampshire, s signal-stations, during the month of June, 1873, for the purpose of making a series f special meterological observations.

Mr. Aiken responded by placing the "Waumback House" at the disposal of the signal-service for the time and purpose above mentioned; as also a railroad-car altered as to form a tolerable protection in ordinary weather, which was brought fro the base and placed on the upper ledge of "Jacob's Ladder," in juxtaposition to t two-mile post.

The assistant observers sent to fill the new stations arrived in Littleton, N. on the 28th of May, and I telegraphed to Private Allen L. Bowie, directing hi not to leave that town without first assuring himself that the stores and miscellaneou property, purchased for the comfort of the men, had been forwarded to the base. the articles were not ready for transportation, Private Bowie considered it best reach the base of the mountain without delay, and trust to the promises of the trade men to have the freight forwarded in good season. But, after waiting until the eve ing of the 31st of May, I was obliged to take a team from the base, and, by travelin over-night, succeeded in furnishing the stations on the 1st of June.

On May 30 the stations were opened, and instruments mounted. Telegraph com munication was established, on the same day, by running the cable into the office and attaching it to the box-sounders brought from Washington. Supplies were issue and I filled up the time in passing between the stations to satisfy myself that nothin important had been forgotten.

The barometers were compared with those at the base and summit stations on Ma 31. The following are the uncorrected readings of the several instruments:

Time.	Station No. 1.*		Station No. 2.		Station No. 3.	
	Att'd ther.	Bar.	Att'd ther.	Bar.	Att'd ther.	Bar.
9.10 a. m	63	24.002	63	23.970	67	24.0
9.20 a. m	62	24.002	61.5	23.959	63	24.0
9.30 a. m	61.5	24.000	62	23.950	63	24.01
9.40 a. m	62	24.000	63	23.955	63	24.0
9.50 a. m	62.5	24.000	64	23.970	63.5	24.0
10.00 a. m	63	24.005	64.5	23.975	63.5	24.0
10.10 a. m	62	24.016	64	23.980	63	24.0

Time.	Station No. 2.		Station No. 3.		Station No. 4.	
	Att'd ther.	Bar.	Att'd ther.	Bar.	Att'd ther.	Bar.
1.10 p. m	59	27.537	57	27.548	60	27.5
1.20 p. m	60	27.538	58	27.549	60.5	27.5
1.30 p. m	60	27.550	59	27.543	61	27.5
1.40 p. m	61	27.539	59	27.550	61.5	27.5
1.50 p. m	61	27.539	60	27.555	62	27.5

* Instrumental error, +.005.

A copy of the following was handed to each observer in charge of a station for h guidance during the month of June, 1873:

SUMMIT-STATION, (No. 1,)
Mount Washington, New Hampshire, May 31, 1873.

On and after June 1, 1873, the time for making the observations on the several st tions will be regulated as follows:

Station No. 1 will give the time for adjusting the time-pieces at the several statio at 8.30 a. m., 4.30 p. m., and 12.30 a. m. daily.

Station No. 4 will call up each station at the times specified for making the hour observations, and receive the usual acknowledgment.

TELEGRAPH CALLS.

Station No. 1—M. W.
Station No. 2—S. O.
Station No. 3—D. S.
Station No. 4—J. S.
General call for all stations—Numeral 1.

ALFRED R. THORNETT,
Observer-Sergeant Signal-Service, U. S. A.

STATION NO. 2

s situated exactly at the two-mile post, which is on the upper ledge of "Jacob's Lad-
er," and about two hundred yards below the "Gulf tank." Its bearing from the sum-
iit is 35° west of north. This station consists of a railroad-car 23 feet six inches long
y 7 feet 3 inches wide, and 6 feet 3 inches in height, interior measurement, clap-
oarded, and braced to secure it as much as possible from the influence of extraordi-
ary winds. There are two windows and one door.

West window: 2 feet 2 inches high, by 2 feet 4 inches wide.

North window: 2 feet 4 inches high, by 2 feet 6 inches wide.

Door: Opens to the north, and is 5 feet 10 inches high, by 2 feet 6 inches wide.

Disposition of instruments.—Barometer-cistern 5 feet 3 inches above the ground.
'hermometer and hygrometer (slanting roof-shelter) 1 foot from the panes of the win-
ow facing north, and in the open air, and the bulbs are 5 feet above the ground.
nemometer and anemoscope exposed upon the roof of the building. The rain-gauge
s secured upon the adjacent rocks, and at a sufficient distance from any disturbing in-
luence.

STATION NO. 3.

The office of this station is situated on the ground-floor and in the south end of the
'Waumback House," which stands about fifty yards above the first mile-post, and
onsequently nearly two miles from the summit.

Length of office, 13 feet; width of office, 12 feet; height of office, 8 feet.

West window: 2 feet high, by 2 feet 8 inches wide.

South window: 2 feet 3 inches high, by 1 foot 8 inches wide.

One door leading from the office to a sleeping-apartment is 6 feet 7 inches high, by 2
eet 8 inches wide.

Another door leads to an unoccupied room, and measures 6 feet 2 inches high, by 2
eet 8 inches wide. Its bearing from the summit is 10° north of west.

Disposition of instruments.—Barometer-cistern and thermometer-bulbs 7 feet 6 inches
bove the ground. Thermometer and hygrometer exposed 1 foot from a window facing
orth, (roof-shelter,) and in the open air. Anemometer and anemoscope upon the roof
f the building. Rain-gauge exposed on the ground, and free from any obstruction.

The distance from the base to the summit along the line of railway is nearly three
niles, therefore the several stations are almost equidistant. It would be difficult to
stablish them in better positions.

Observers and assistants worked with a will to have all ready by the 1st of June,
nd everything is being done to secure a reliable record of the work performed during
he month.

I have the honor to be, sir, very respectfully, your obedient servant,

ALFRED R. THORNETT,
Observer-Sergeant Signal-Service, U. S. A., in charge of Stations.

The Chief Signal-Officer of the Army,
Washington, *D. C.*

E.

Daily journal for the month ending May 31, 1873.

Summit of Mount Washington, New Hampshire,
June 1, 1873.

May 1, 1873.—The barometer gradually rose from 30.11 at 1 a. m., to 30.15 at 8 a. m.,
nd oscillating but very little; was very steady at 30.05 to 30.07 after 2 p. m.; mean
arometer, 30.10. The temperature fluctuated between 22° and 25°; mean thermome-
er, 24°.0. The day opened with a steady northwest wind, which changed to west at

10.30 a. m. and remained steady afterward. From 1 a. m. to 8 a. m. the velocit steadily decreased from forty-two to fifteen miles per hour at 4 p. m., and sinking to brisk wind at night. Clear weather until 9 a. m., when a few cumuli appeared, moving with the prevailing wind, and gradually increased in volume until the sky wa about one-half covered. These clouds disappeared as night approached, leaving th sky, above the summit, clear. About one-quarter stratus streaked the horizon.

May 2.—Up to 9 a. m. the barometer was steady at 30.06 and 30.07. From tha time a steady decrease of pressure was observed, and at midnight the instrumen gave a reading of 29.82; mean barometer, 29.956. The temperature was steady a 24° and 25° until 6 a. m., and then steadily increased to 32° at midday. A gradua decrease took place through the rest of the day, to 25° at last observation; mea thermometer, 28°.0. The wind continued to blow steadily from the west during th early part of the day, became fitful in the early afternoon, backed to steady sout at 1.30 p. m., and remained so for the rest of the day. Brisk and fresh velocity, risin to a moderate gale at night. The wind moderated very preceptibly through the day light hours. Fair weather up to 1 p. m., when the clouds descended and capped th mountain, culminating in a steady fall of light snow at 2.45 p. m., which continue all day. At 4 a. m. a small quanty of cirro-stratus clouds was observed; these gav place to a large quantity of cirro-cumulus at 6 a. m., which in time gradually lost it distinct formation and became absorbed in a uniform veil of stratus in the latter par of the forenoon. The upper clouds moved with the prevailing wind.

May 3.—The barometer continued falling to 29.70 at midday, and then remaine nearly steady until 9 p. m., when the mercury gradually rose to 29.76 at last observation; mean barometer, 29.716. The temperature was steady at 24° and 25° up to 4 p m., then gradually decreased to 19° at midnight; mean thermometer, 22°.5. From to 4 a. m. the wind oscillated between the points of south and east, settling to east a 4.50 a. m.; between 6 and 7 p. m. it suddenly chopped round to northwest, settled t north shortly after, and remained steady for the rest of the day; moderate-gale velocit prevailed through the early part of the day, gradually rising, as evening advanced, t a storm, averaging sixty miles per hour. Snow ceased falling at 1.25 a. m., but th weather continued threatening until it recommenced falling lightly at 6.15 a. m. Thi continued until 6.10 p. m., when the wind, suddenly changing to the northwest brought clearing weather. The clouds rose rapidly above the summit, and an extensive view of the surrounding country was obtained. As night approached the cloud (stratus) gradually contracted, so that about one-half of the sky was visible, and fai weather set in. The mountain is now covered with snow to a considerable depth. In some places the drifts are almost beyond measurement, rising and falling in hug waves from "Jacob's Ladder" to the summit. Below "Jacob's Ladder" the dept varies from 2 to 8 or 9 feet, but shows signs of breaking up.

May 4.—The barometer rose gradually to 29.92 at 4 p. m., and then fell to 29.85 a midnight; mean barometer, 29.849. The temperature was very steady up to 8 a. m at 20° and 21°; rose to 24° at 11 a. m., where it remained steady until after 1 p. m. then steady at 23° until 6 p. m., and at 22° for the rest of the day. Mean thermometer 21°.7. At 6.30 a. m. the wind backed from north to northwest, and to west at 12.45 p m., blowing steadily from the latter quarter up to midnight. Storm velocity fell of to "high" and moderate "gale" through the middle of the day, but rose to fifty mile per hour in the afternoon and late at night. About one-quarter stratus cloud hung upon the horizon in the early morning. This gradually disappeared, and from 6 a. m. until 2 p. m. only a slight haze (below the summit) thickened the atmosphere. Betwee 2 and 3 p. m. cumulus clouds, moving from the northwest, partially covered the sky but were dissipated a little before sundown, and clear weather prevailed until, at a little before midnight, a small quantity of stratus appeared first above the summit.

May 5.—The barometer continued falling to 29.82 at 5 a. m.; after that hour it rose (irregularly) through the day to 30.08 at last observation; mean barometer, 29.984. The temperature fluctuated but very little. It was steady at 22° from midnight to 9 a. m.; at 23° from 10 a. m. to 5 p. m., and then gradually decreased to 20° at midnight. Mean thermometer 21°.7. A very steady west wind all day, changing by northwest to north at night. Up to 9 a. m. we experienced heavy gale and storm velocity, which gradually abated during the forenoon, and settled to a brisk wind in the early afternoon. From 4 p. m. the velocity oscillated between brisk wind and moderate gale, suddenly rising to a heavy gale at 11 p. m. Fair weather opened the day, but toward 3 a. m. dense masses of cloud accumulated over and around the summit. At 3.45 a. m. snow began falling steadily, and continued until 10.30 a. m. Cloudy weather until 12.30 p. m., when the clouds appeared to be thinning, and shortly after 2 p. m. they rose above the summit, showing about three-fourths cumulus moving from the west, and a clear atmosphere below. The clouds gradually disappeared as the day passed, leaving a slight haze hanging over the country below the surrounding summits, and from sunset to midnight the weather was clear. For several weeks past we have experienced considerable difficulty in cutting our way out of the depot and in letting daylight through the windows. Enormous drifts of snow have formed about the building, and as fast as a passage is cut out, and the windows cleaned, the wind drives in the snow to fill up the gaps, so that the force is usually divided into cook, observer, and snow-shoveler, consequently time does not hang very heavily upon our hands. The temperature has been, and is, so constant below 32°, that it is difficult to say when this monotonous state of things is going to change. One drift reaches more than half way up the roof of the depot.

May 6.—The barometer rose to 30.21 at midday, and the readings showed very little variations during the remainder of the day. The instrument gave evidence that the pressure of the atmosphere was very uneven, and a great deal of care had to be exercised, while the minute observations were being made, to insure a correct record of the height of the mercury, which was continually oscillating and balking the eye of the observer. At this station we frequently experience similar trouble. Mean barometer, 30.192. The temperature was steady from 19° to 22°. It increased from 19° at 1 a. m. to 21° at 9 a. m., stood steady at 22° until 7 p. m., and then gradually decreased to 20° at midnight. Mean thermometer 20°.5. The wind continued from the north with heavy gale velocity, until it changed rapidly to west between 1 and 2 p. m., and settled at that point for the rest of the day. At sunset the velocity decreased to high wind, but shortly after increased to a heavy gale, and between 11 p. m. and midnight attained a maximum for the day of sixty miles per hour. Clear weather prevailed. A light haze, which hung over the country below the summits in the early part of the day, became very dense as daylight ended. The atmosphere was comparatively clear after 10 p. m. The only clouds that were to be seen were a few isolated stratus, which appeared now and then through the day, and always near the horizon.

May 7.—The barometer rose to 30.41 at last observation. Mean barometer, 30.380. The temperature decreased to 19° at 3 p. m., and remained steady until after 6 a. m., when a steady increase set in, the mercury jumping from 24° to 28° between 10 and 11 a. m., and to 32° at 12.22 p. m. From 1 p. m. a gradual decrease took place, and at midnight the thermometer read 26°; mean thermometer, 26°.2. The wind continued from the west until 6 a. m., and then gradually veered round by northwest to north, but returned to west at midday, and continued so until it died away to "calm" at 7 p. m.; shortly after a breeze sprang up from the north, when it remained steady for the rest of the day. Storm velocity steadily diminished to a fresh breeze at 9 a. m., and until it fell calm at sunset. From the time that the north wind arose in the evening the velocity steadily increased to "brisk," and varied but very slightly through the rest of the day. Throughout the twenty-four hours the lower country was covered with a light haze, and a few cirro-stratus clouds appeared and disappeared at intervals of several hours. The sun's heat is beginning to make a decided difference in the appearance of the mountain. A large quantity of snow has melted within the last two days, and the railroad-track is steadily emerging from its winter covering. The rocks are peeping out, and a few days of fine weather will leave them comparatively clear. From 8 to 9 p. m. the horizon between the points of north and northwest was fringed with an auroral belt, which had the appearance of a lambent flame of a deep-red color at the base, and of a light yellow at the tips. The aurora was almost stationary, remained with little apparent change for nearly thirty minutes, and then gradually died away.

May 8.—The barometer remained stationary at 30.38 to 30.42 until 3 p. m., and then gradually dropped to 30.31 at midnight. Mean barometer, 30.382. The temperature rapidly increased from 25°, in the early morning, to 36° at 11 a. m.; was steady at 35° and 36° until 4 p. m., and gradually decreased to 30° at last observation. Mean thermometer, 31°.7. The wind continued from the north with greatly diminished velocity, until it fell calm between 3 and 4 a. m. From 9 a. m. to 4. p. m. there was a gentle and fresh breeze from the north, inclining a little to northwest. Calm for an hour between 4 and 6 p. m., then brisk wind from the northwest (changing again to north at 7.30 p. m.) until the close of the day. The ravines and valleys are still filled with a light haze. To-day the sky has been from one to three-fourths covered with a great variety of cirrus cloud, well-defined cirro-stratus predominating. At times immense horse-tails of pure cirrus were observed, but they were rapidly divided into the various formations to which this cloud is subject. These clouds stretched across the sky in parallel lines, which appeared to converge in the east and west. They moved very slowly from the northwest. A broad halo encircled the moon. The day has been very fine, and the snow is certainly going away rapidly. The temperature has been higher to-day (36°) than at any time since the year began. Altogether we begin to feel that winter has really gone, and that summer is approaching.

May 9.—From 1 a. m. until 2 p. m. the barometer oscillated between 30.24 and 30.28, and then dropped to 30.18 at last observation. Mean barometer, 30.231. The temperature gradually decreased to 24° at 6 a. m., and remained steady for nearly two hours after; then steadily increased to 28° at 11 a. m., and from that hour the mercury oscillated between 26° and 29°; mean thermometer, 27°.2. Shortly before 1 a. m. the wind changed direction (very suddenly) to southeast, where it remained steady until after 8 a. m. From that time until 10 p. m. it was unsteady, frequently veering to east and back to southeast, but settled to southeast late at night. High and gale velocit prevailed. Fair weather prevailed until 3 p. m., when it became cloudy, and at 6.1 p. m. sleet began to fall; stopped at 10.30 p. m.; threatening weather closing the day Early in the morning a few stratus clouds appeared at intervals, but the principal cloud were ill-defined cirro-stratus, moving with the prevailing winds. From 6 a. m. th sky was partially covered with a light veil of stratus, apparently of a uniform thickness, and rising high above the summits. After 4 p. m. the ravines began to fill wit dense masses of cloud which were rapidly advanced by the wind from the southeas until, at 4.30 p. m., the summit was completely shrouded, and remained so for the res of the day. The sleet fell in minute particles, and was not very heavy. A team ha been driven into the base to-day. This is the first time (this year) that wheels hav been able to pass over the last two miles to the mountain. The mill is reported a ready to work next week. Last year it started on the 5th of May.

May 10.—The barometer fell slightly through the early part of the day, but after a. m. rose steadily to 30.17 at last observation. Mean barometer, 30.151. Up to 6 a m. the temperature oscillated between 28° and 30°, steadily increased to 38° in th early afternoon, and was very unsteady afterward, between 32° and 35°. Mean thermometer, 33°.5. After blowing unsteadily from the south and southwest in the morning the wind settled to the former point at 8 a. m., and remained steady until 5 p. m. when it became very uncertain, coming from all points between southwest and northwest, and continued to be unsettled during the latter part of the day; calm at midnight. Heavy gale and storm velocity gradually subsided after 10 a. m. to "calm" a last observation. Threatening weather opened the day; heavy rain fell from 7.30 t 8.22 a. m., and the summit was shrouded with saturating clouds until 3.30 p. m., whe clearing weather set in, and from sunset until midnight the weather was fair. In th latter part of the day the ravines were filled with an immense quantity of fleecy cloud which formed a level and unbroken sea as far as the eye could reach, giving to the few peaks that were not covered the appearance of small islands, and utterly concealing the surrounding country from observation. A few cirrus clouds moved with the prevailing wind.

May 11.—The barometer fell throughout the day to 29.88 at last observation. Mean barometer, 29.904. The temperature fluctuated between 32° and 38°, and was very uneven, sometimes falling or rising 3° in less than thirty minutes. The highest temperature was observed at 2 p. m. Mean thermometer, 35°. Between 1 and 2 a. m. a brisk wind arose from the southwest, which backed to south at 11 a. m., and then remained steady for the rest of the day. The velocity oscillated between gentle and high wind. The day opened with very fine weather. This morning the appearance and position of the clouds were much the same as when last observed, but the illusive nature of the scene was much enhanced by the faithfulness with which the clouds simulated the well-known features of the great watery element. Masses of cloud rushed between the mountain-peaks that arose above them, forming cataracts of great volume and beauty. Breakers rolled and tossed above the mountains immediately beneath the surface, and pretty bays were created in the irregular shores of the various exposed summits. Waves of light and shade of so rare a kind swept over the whole expanse when the sun rose above the horizon, that words fail to convey the barest impression felt by those who witnessed the sublime creation. The illusion was so complete that we almost forgot the physical features of the surrounding country in the contemplation of the wonderful beauty of the aerial ocean which shut it out from view. Shortly after 7 a. m. the summit was suddenly enveloped in dense clouds, showers followed, and at 2.47 p. m. heavy rain began. This continued up to 11.30 p. m., but diminished in quantity as the day wore on. Cloudy weather at last observation.

May 12.—The barometer fell steadily in the early morning, and then remained comparatively steady for the rest of the day. Mean barometer, 29.756. The temperature decreased to 32° at 3 a. m.; was very steady at that point until 8 p. m., when it gradually decreased and the mercury settled to 29° for the last three observations. Mean thermometer, 31°.5. At a few minutes past 5 a. m., the wind abruptly changed to north, backed to west between 2 and 3 p. m., and to northwest shortly afterward. The velocity gradually increased from gentle to high wind, and to a heavy gale after sunset. Dense clouds covered the summit in the beginning of the day. Light rain began falling at 2.40 a. m.; turned to sleet at 5.30 a. m., and ceased at 8.12 a. m. Between 3 p. m. and sunset an interval of fair weather took place. After sunset thick clouds surrounded and covered the summit, no change for the better being observed during the rest of the day. We are now very busy cutting through the large snow-drifts that have formed within and without the depot.

May 13.—The barometer fell steadily to 29.46 at 6 p. m., and then gradually rose to 29.58 at midnight. Mean barometer, 29.587. The temperature was unsteady in the morning, fluctuating between 27° and 30°; rose to 34° at 1 p. m., and from that hour decreased to 26° at last observation. Mean thermometer, 29°.5. The wind veered to the west between 1 and 2 a. m., and to northwest shortly before 2 p. m., remaining steady for the rest of the day. High and gale velocity all day. The morning opened with fair weather; a few cirro-cumulus clouds moved with the prevailing wind, and from one to two-fourths stratus hovered over and hung about the neighboring mountains. Early in the forenoon the summit became covered with dense clouds, heavily charged with moisture, and the weather for the rest of the day was very cloudy and threatening. From midday until midnight we were favored with frequent showers of light rain and sleet. These attempts were very insignificant, and the amount collected barely enough to allow of a measurement being made.

May 14.—The barometer oscillated considerably through the day, and gradually fell to 29.42 at last observation; mean barometer, 29.523. The temperature gradually decreased to 19° at night. From midday until 10 p. m., the mercury was steady at 22° and 23°; mean thermometer, 23°. The wind changed to west shortly after 1 a. m., and remained steady from that point until 10.30 p. m., when it returned to northwest. The velocity fluctuated between high wind and storm, reaching a maximum of sixty miles per hour. Through the daylight hours there were frequent lulls, the velocity diminishing to thirty miles per hour. The weather continued to be very cloudy and disagreeable; light snow began falling at 4.15 p. m., and continued for the rest of the day, coming down very heavily after 7.30 p. m. At midnight I estimated that six inches had fallen on a level, but it was difficult to make an accurate calculation. The engineers have arrived at the base, and intimate that they expect to run a freight-train to the summit early in the coming week. The snow is at a standstill, and frozen into solid masses of ice.

May 15.—The barometer rose steadily all day to 29.87 at last observation; mean barometer, 29.734. A rise of 0.16 between 8 a. m. and midday was forwarded at 5 p. m. I was unable to raise Littleton at the proper hour for telegraphing the report. The temperature increased from 19° at 2 a. m. to 24° at 11 a. m., remained very steady at 24° and 25°, sinking to 23° at midnight; mean thermometer, 23°.2. A northwest wind changed to west early in the afternoon, and remained steady for the rest of the day. Storm velocity in the morning, fluctuating between fifty and seventy-two miles per hour. It gradually decreased to a steady, brisk wind, and from 3 p. m. until midnight it varied very little. Heavy snow continued through the early morning, ceasing at 4.10 a m. As the forenoon advanced there was a material difference in the density of the clouds. They were much more transparent, and at times the sun shone through them very brightly. Toward the close of the afternoon they became almost opaque, and the weather was cloudy until after 10 p. m., when the clouds continued to the south and southeast, covering about one-fourth of the sky. A display of auroral streamers was observed between the points of north and east. This took place between 10.30 p. m. and midnight. I went to the base this evening with mail. Preparations are being made to run a train to the summit at the earliest opportunity.

May 16.—The barometer fell to 29.81 at 6 a. m., rose to 29.88 at 11 a. m., and then remained comparatively steady through the rest of the day. Mean barometer, 29.873. The temperature gradually increased to 29° at 1 a. m., remained steady at 28° and 29° during the afternoon, and gradually decreased to 27° at night. Mean thermometer, 27°.2. The wind oscillated between west and northwest in the forenoon, settled to west at midday, and was very steady afterward. Brisk velocity prevailed. High wind at night. With the exception of an interval of fair weather, between 5 and 8 a. m., the weather was very cloudy. I returned to the summit this morning with a load of mail and other necessaries, accompanied by two carpenters employed by the railroad company.

May 17.—The barometer was comparatively steady all day, showing a slight increase of pressure in the afternoon and at night. Mean barometer, 29.878. The temperature rapidly decreased from 27° in the early morning to 23° from 7 to 8 a. m., rose to 25° at 10 a. m., and fluctuated between 25° and 27° for the rest of the day. Mean thermometer, 25°.2. Between 6 and 7 a. m. the wind changed to northwest, and then held steady. The velocity oscillated between high and fresh winds. The weather was very unsettled; snow fell lightly and spasmodically at all hours. From 6.05 a. m. it fell very steadily, and continued to do so after the last observation was received. It is perhaps worthy of record that, on the 9th day of May, 1872, the temperature rose to 47 degrees, and that the highest observed temperature for the present year only reaches to 38°.

The snow on the summit is becoming deeper every day, and unless a rapid thaw sets in at an early date, this summer season will be one of notable brevity.

May 18.—The barometer showed as light but decided increase of pressure. Mean barometer, 29.933. The temperature fluctuated between 22° and 26°. Mean thermometer, 24°.2. Steady, brisk, and high wind, falling off to "fresh" for an hour or two in the middle of the day. Snow ended at 11.35 a. m. The sun broke through the clouds, now and then, for a few minutes at a time, but cloudy weather prevailed. Fair at night. The weather and general appearance of things outside are too monotonous to afford much matter for record.

May 19.—The barometer fell to 29.87 at 5 a. m., and then rose steadily to 30.14 at last observation. Mean barometer, 30.046. Up to 8 a. m. the temperature was very steady at 23°; increased to 25° in the middle of the day, and after 3 p. m. never moved half a degree from 26°. Mean thermometer, 25°.2. The wind continued from the northwest through the morning, backed to west in the early part of the forenoon, and gradually went round by the northwest in the afternoon to a steady blow from the north. Heavy squalls in the early morning, sometimes up to sixty miles per hour. After 9 a. m. the velocity suddenly diminished and oscillated between fresh and brisk wind. The day opened with fair weather; only a few stratus clouds darkened the horizon. This lasted but a short time. Soon after 3 a. m. dense masses of cloud formed in the immediate vicinity of the mountain, and rapidly ascended until the summit was completely capped. Between 9 and 10 a. m. these clouds rose to a great height, in a uniform fleecy veil, which frequently changed in appearance, but never assumed any well-defined formation. As the day wore on the clouds gradually contracted and finally disappeared. From 8.30 p. m. the sky was perfectly clear. A shower of auroral streamers appeared in the northeast at and after 10 p. m.; they were very insignificant, both in body and color.

May 20.—A steady increase of pressure continued throughout the twenty-four hours. The barometer was almost steady after 9 p. m., and read 30.33. Mean barometer, 30.297. The temperature increased from 25° in the morning to 34° at 3 p. m., where it remained steady until after 4 p. m., then gradually decreased to 30° at (and after) 10 p. m. Mean thermometer, 30°.2. Steady north wind, with fresh and brisk velocity gradually died away to a dead calm at a little past 2 p. m. This lasted until 6.15 p. m., when a light west wind arose. As the day advanced the direction frequently changed to southwest, and settled at that point shortly before midnight. After 8 p. m. the velocity increased to a fresh breeze, averaging seven miles per hour. Up to early afternoon the sky was free from clouds, and everything within view stood out in bold relief. Through the afternoon about one-fourth cumulus appeared, moving from the north and northwest, a light haze over the lower country, and a few stratus clouds streaked the sky in disconnected patches. As the daylight waned the clouds disappeared, and the night was very clear and placid. Sergeant Sackett brought up mail to-day.

May 21.—The barometer continued to show a decided increase in the pressure of the atmosphere until the mercury rose to 30.36 in the forenoon. After mid-day a gradual fall set in, and at last observation the instrument read 30.26. Mean barometer, 30.311. The temperature was comparatively steady between 27° and 30° through the day. It gradually increased, after sunset, to 32° at midnight. Mean thermometer, 31°. In the early part of the day the wind came very steadily from the southwest, but changed frequently afterward, making it very difficult to ascertain the true direction. It appeared to have a greater tendency from southwest and west than from any other point, but frequently swinging to all points of the compass. The velocity fluctuated between "gentle" and "brisk," and did not exceed twenty-five miles per hour at any time in the day. Up to 10 a. m. clear weather prevailed; only a small quantity of stratus cloud streaked the eastern sky. The upper clouds varied in quantity and appearance, changing rapidly from well-defined cirrus and cumulus to all their recognized modifications, and oftentimes stretched across the sky in a semi-transparent veil. Gray stratus clouds partially covered the sky at a considerable altitude, shortly before sunset, and remained nearly stationary until 10 p. m., when they slowly descended and covered the summit, and the weather became decidedly moist. A peculiar pale yellow colored halo surrounded the sun late in the forenoon. Although in the early afternoon, the prevailing wind came from a southern point, the upper clouds moved from the northwest. Later in the day they followed the course of the prevailing wind, crossing the point of observation. Heavy rain began falling at 11.35 p. m., and continued into the following morning. The mill at the base of the mountain commenced running to-day, sixteen days later than it began last spring. The snow is moving off very rapidly.

May 22.—The barometer fell very irregularly to 30.20 at last observation. Mean barometer, 30.207. The temperature was steady between 30° and 34°, until late at night, when it suddenly increased from 32° at 11.22 p. m., to 36° at midnight. Mean thermometer, 33°.2. The wind oscillated between west and southwest, never remaining steady for five minutes together. High and brisk velocity prevailed. Heavy rain continued through the early morning; ended at 4.46 a. m. Heavy saturating clouds covered the summit throughout the twenty-four hours. A vast quantity of snow has been swept from the mountain during the last two days. Jacob's Ladder is cleaned off, and from the Waumback House to the base the ground is bare.

May 23.—The barometer fell steadily all day to 29.97 at last observation. Mean barometer, 30.128. The temperature increased to 43° at 7 p. m., stood steady until 8.30 p. m., and then decreased to 41° for the last three observations. Mean thermometer, 40°.0. Southwest wind in the morning changed to west at 7 a. m., and continued so, with an occasional puff from the southwest, for the rest of the day. Fresh to high velocity until after sunset, when it rapidly increased to a storm of sixty miles per hour. Cloudy weather continued until after 9 p. m. From that time the sky was about three-fourths covered with stratus clouds, which hung about the neighboring summits. At 10 p. m., and for about thirty minutes after, we observed frequent flashes of sheet-lightning, which passed a considerable quantity of electricity through our stove pipes. The lightning appeared to emanate from a mass of inky-black clouds situated in the southwest, and in close proximity to Mount LaFayette. Mr. Aiken tried to run a train to the summit to-day, but failed in the attempt through a boiler-pump getting out of order. Men were employed in shoveling snow from the track, in some places to a depth of 5 and 6 feet.

May 24.—The barometer oscillated between 29.97 and 29.73. The maximum pressure occurred at 1 a. m. and the minimum at 5 p. m. Mean barometer, 29.846. The temperature gradually decreased to 35° at 8 a. m., and then steadily increased to 41° in the afternoon. After 5 p. m. the thermometer showed a steady temperature of 37°. Mean thermometer, 37°.7. There was a steady west wind all day. The velocity rose to seventy-two miles per hour in the early morning, high wind through the forenoon, and from 5 p. m. until midnight it stormed at the rate of from sixty to seventy-two miles per hour. Up to 9 a. m. the weather was very cloudy and generally dismal. From that hour until 6 p. m. fair weather prevailed, enlivened by a rain-storm and vivid flashes of lightning from 1.30 to 3.30 p. m. As the day closed heavy saturating clouds covered the summit, and continued so for the balance of the day. The upper clouds changed their formation every minute, and moved in various directions, massing and separating repeatedly. Telegraph communication was considerably disturbed by the atmospheric electricity. Mr. Aiken succeeded to-day in running a train to the summit, and three more carpenters were brought up to assist in completing the new hotel.

May 25.—There was a steady rise in the barometer all day; at midnight the instrument read 30.25. Mean barometer, 30.136. The temperature was comparatively steady from 35° to 37° up to midday; steady through the afternoon at 40° and 41°, and decreased to 37° at last observation. Mean thermometer, 37°.2. The humidity was very uneven; especially so at night. Immediately after the 8 a. m. observation was recorded the wind changed to north, and blew very steadily from that quarter until late in the afternoon, when the direction became uncertain, and gradually backed round by northwest to west. The velocity rapidly subsided to a light and fresh breeze from and after the midday observation. From 8 a. m. the sky cleared rapidly and the clouds covering the summits passed away from sight in a series of wonderful dissolving views. The principal clouds (cumulus) tumbled about the ravines in the early part of the day; toward midday they gradually ascended above the summits, leaving a light haze behind to fill the lower country. Upper clouds moved with the prevailing wind. After sunset the stars came out in great splendor, and clear weather prevailed. A few stratus clouds streaked the horizon at night; hazy below.

May 26.—The barometer rose steadily until nearly mid-day, and then fell to the position it held at the commencement of the day. Mean barometer, 30.290. The temperature increased to 47° in the afternoon, and oscillated a good deal during the day. Mean thermometer, 43°.7. The wind veered to north at 3.30 a. m., and died away to a calm at 6.15 a. m. Shortly before 10 a. m., a baffling light wind sprang up from a southern point, oscillating between south and southwest; a steady breeze from the west after 1 p. m.; gentle and fresh velocity in the morning and afternoon; brisk in the latter part of the day. Very fair weather has prevailed throughout the day. A light haze has covered the country below the summits, and the upper clouds (principally cirro-cumulus and light stratus) have moved with the prevailing wind. As night set in the clouds gradually covered the sky in the form of light stratus, and the rapidly-increasing humidity leads us to expect a change in the weather. Within the last few days the snow has melted with astonishing rapidity. Only a few broad patches of soft snow are to be seen, and miniature torrents are rushing down the mountain-sides. For several days past the Ammonoosuc has been unusually high.

May 27.—The barometer fell slowly all day to 30.08 at last observation. Mean barometer, 30.154. The temperature was very steady at 45° until after 9 a. m., increased to 50° at 1 p. m., and then fluctuated between 47° and 49°. Mean thermometer, 47°.0. Wind from the west, with a slight inclination to southwest, through the afternoon. The velocity varied considerably, oscillating betwen fresh wind and a moderate gale. Warm saturating clouds covered the summit, culminating in light rain at 2.35 a. m.; ended at 4.32 a. m.; clearing weather set in immediately after the rain ceased falling. The weather for the rest of the day was fair. The upper clouds were very commonplace, presenting little variety. They moved with the prevailing wind. At night the sky was about two-fourths covered with light stratus clouds, drifting with the wind quite close to the summit. The stars shone clearly through the breaks in the clouds. A train arrived to-day, bringing four more carpenters and a supply of provisions.

May 28.—The barometer showed an increase of pressure during the forenoon, and then steadily sank to 29.95 at last observation. Mean barometer, 29.982. The temperature gradually descended to 41° at midnight. Mean thermometer, 46°.0. There was a steady west wind all day. Storm and heavy gale velocity in the early morning dropped to a high wind through the greater portion of the day, and increased to a stiff gale at midnight. The weather has been very uninteresting. Summit covere with heavy clouds, which broke at times sufficiently to tantalize us with the fin prospect in the distance. Painters are at work in the new hotel. The party sent t fill the new stations here arrived in Littleton this p. m. I telegraphed Private Bowi to bring everything with him, and to make all haste in getting to the base.

May 29.—The barometer steadily rose to 30.15 at 5 p. m., and from that time gradually dropped to 30.03 at last observation. Mean barometer, 30.099. The temperatur was comparatively steady between 39° and 42°. Mean thermometer, 41°.2. West win through the day, northwest after 8:30 p. m. Velocity gradually diminished from gale in the earliest hours, to tolerably steady brisk and high wind. Light rain set in a 12.22 a. m., and continued until 5.26 a. m. Rain-fall .26 of an inch. Cloudy weathe through the forenoon. Turned fair at midday. Upper clouds (¼ to ¾ cumulus) move from the west. Clear below. I met the assistants sent to fill the new stations at th base this evening. Some portion of the baggage will arrive to-morrow. Everythin has been done by the railroad officials to expedite the placing of the stations in habitable condition. All unite in the endeavor to make the new-comers as comfortabl as circumstances permit.

May 30.—The barometer fell steadily to 29.92 at 5 a. m., rose to 30.14 at 11.22 p. m and fell to 30.09 at midnight. Mean barometer, 30.050. After 3 a. m. the temperatur rapidly decreased until 8 a. m., and then the mercury was comparatively steady oscillating between 26° and 28°. From 6 p. m. the thermometer showed a ver even temperature of 24°. Mean thermometer, 25°.7. Wind from the west an northwest; steady from the northwest during the daylight hours. The velocity rapidl increased to a storm of sixty-six miles per hour at 6 a. m., fell to brisk and hig through the day, and increased to sixty miles per hour at last observation. Threatening weather opened the day. Heavy rain fell from 2.10 a. m. to 5.12 a. m. Cleare rapidly, and fair weather prevailed. Clear at night. The principal clouds were ligh stratus and well-defined cumulus, alternately rising high above the summits and fillin the ravines. When above the summits, the clouds moved from the west and northwest. I filled the day in superintending the fitting up of the new stations, and makin the necessary telegraph connections. When the instruments were put in circuit th line worked well at all points. Littleton operator provided extra battery, and everything is going on in a satisfactory manner. The observers and assistants worked wit a will to have all prepared for beginning operations on the 1st of June.

May 31.—The barometer was comparatively steady after 2 p. m., from 30.30 to 30.33 Mean barometer, 30.287. The temperature decreased 6° between 1 and 2 a. m. Fro 6 a. m. the mercury rose rapidly to 33° in the afternoon; nearly steady at 31° afte sunset. Mean thermometer, 28°.2. Northwest wind changed to west, and steady between 2 and 3 p. m. Storm velocity gradually diminished to a steady, brisk wind Clear weather all day; slight haze below. For two or three hours after sunset th lower portion of the mountain was enveloped in a dense smoke, which proceeded fro fires accidentally started by wood-cutters. A considerable portion of the day wa passed in conveying the new barometers to the base and summit, for comparison wit the instruments at those stations. As there was no evidence that the articles purchased at Littleton (for the use of the new stations) had been forwarded from Bethlehe railroad-depot, I procured a team and proceeded to that point for the purpose o transporting them to the base without further loss of time.

INSTRUMENTS, PROPERTY, ETC.

No change in the instruments since last report. The carpet is rapidly wearing out.

ALFRED R. THORNETT,
Observer-Sergeant Signal-Service, United States Army.

F.

Daily journal for the month ending June 30, 1873.

SUMMIT OF MOUNT WASHINGTON, NEW HAMPSHIRE,
July 1, 1873.

June 1, 1873.—The barometer oscillated considerably all day between 30.10 and 30.30 Mean barometer, 30.172. After 4 a. m. the temperature steadily increased to 42° in th afternoon, and from 5 p. m. gradually decreased to 37° at last observation. Mean thermometer, 37°.5. The wind continued to come steadily from the west. By 7 a. m. the velocity increased to a stiff gale, and continued so, without much change, until nearl sunset, when it rapidly diminished to high and brisk winds. Fair weather prevailed.

Light rain fell from 8 to 10 p. m. Cloudy weather at midnight. At (and for thirty minutes after) the 2 a. m. observation, a pale yellow auroral arch was observed close to the horizon, stretching between the points of north and east. A small quantity of cirro-stratus clouds moved with the prevailing wind; well-defined cirrus and cumulus in the afternoon. I visited the new stations to-day, and found everything going on well. They were provided with stoves, &c., this morning.

June 2.—The barometer was steady to-day, with an inclination to rise at night. Mean barometer, 30.190. The temperature decreased to 28° in the early morning, increased to 36° in the afternoon, and dropped to 28° at last observation. Mean thermometer, 31°.5. Shortly before 1 a. m. the wind changed to north, and back to northwest at 7 a. m.; then remained steady until between 8 and 9 p. m., when it settled to north. Brisk and high velocity, sometimes rising to a moderate gale. The weather continues to be very fine. Upper clouds, similar to those observed yesterday. Auroral streamers covered the sky between the points of north and east, from 12.30 a. m. until daylight. Fires are still burning in the woods below, and the lower country is filled with smoke.

June 3.—The barometer rose slightly through the day, (up to 5 p. m.,) and then fell to 30.20 at 8 a. m.; steady at night. Mean barometer, 30.237. The temperature gradually increased to 41° at 2 p. m., and from that hour decreased to 37°, at last observation. Mean thermometer, 36°.2. North wind in the morning, with "calm" at intervals. Early in the forenoon the direction changed to nothwest, and after 11 a. m. settled to west. Fresh velocity prevailed. Very frequently the sky was covered with light stratus clouds, stretching in horizontal lines, and connected by a dense haze, which pervaded the surrounding country and summits. Our observations were, to a great extent, limited by the smoke ascending from fires in the valleys. Auroral streamers were observed in the northeast from 12.20 a. m. to 3 a. m., but were very indistinct in consequence of the prevalence of dense haze. A bright halo encircled the sun during the afternoon.

June 4.—There was a decided fall in the barometer throughout the day, especially after the early morning hours. At midnight the instrument read 29.77. Mean barometer, 29.885. After 9 a. m. the temperature sensibly increased until 7 p. m., when the thermometer read 48°, and remained steady there for several hours. After 10 p. m. the mercury slowly fell to 46°. Mean thermometer, 43°.7. The relative humidity ranged between 70 and 100 per cent. The direction of the wind oscillated chiefly between west and northwest, with sometimes an uneven movement to southwest. The velocity steadily increased to high wind and gale, sometimes rising to nearly fifty miles per hour, but brisk and high winds prevailed. From 2.25 a. m. and up to midnight we experienced showery weather, the rain falling, in the early part of the forenoon, quite heavily. The summit was never free from heavy saturating clouds at any time during the day. A good deal of interruption took place in the telegraphing of signals to-day. This was caused by the defective insulation between the base and Littleton, and which occasioned considerable trouble last year. I visited the stations, and found that the duties were being creditably performed, and that there was no fault in the cable. Our battery at the base is in good order, but not strong enough to work the several instruments without the assistance of the Littleton battery.

June 5.—An irregular fall in the barometer continued until it reached a maximum of 29.72 at 5 p. m. After that hour the mercury rose to 29.88 at midnight, but oscillated materially all through the day. Mean barometer, 29,819. The temperature decreased in the early morning to 39°, and then stood steady for two or three hours; gradually increased to 45° at 3 p. m., oscillating very frequently, but only to the extent of 1° or 2°. From 3 p. m. a gradual and even decrease to 37° at the last observation. Mean thermometer 40°.2. The humidity fluctuated between 80 and 100 per cent. Excepting an occasional puff from the west, the direction was steady from the northwest. High and gale velocity in the early part of the day; dropped to fresh wind through the afternoon, and rose at night to "high." Rain ended at 2.35 a. m., but until 7 a. m. the summit was covered with clouds almost fully saturated. A short interval of clearing weather showed the ravines filled with heavy cumulus and stratus clouds, which soon rose and covered this station again. At 3 p. m. rain began falling, and on descending the mountain I met a storm of hail, which extended from a little above "Jacob's Ladder" to about three-fourths of a mile below. The stones averaged a quarter of an inch in diameter. Thunder accompanied the storm, the peals following each other in rapid succession. This lasted about 45 minutes. Fair weather from 7 to 9 p. m.; cloudy at night. I visited stations Nos. 2 and 3 to see that the instruments were cut out during the progress of the storm, as I was fearful that the electricity would cause some trouble.

June 6.—The barometer rose very steadily to 30.00 at last observation. Mean barometer, 29.976. A gradual increase of temperature to 43° at 1 p. m., where it remained very steadily until 6 p. m., when the mercury (gradually) began dropping; 38° at midnight. Mean thermometer, 40°.7. Humidity steady between 90 and 100 per cent. Up to midday, the wind continued to blow very steadily from the northwest; after that time, until night set in, the prevalent wind was west, then northwest. Brisk and fresh velocity prevailed, seldom rising much above twenty miles per hour. Very ligh showers fell in the early morning and early in the afternoon. Altogether, the day ha been very cloudy and uninteresting. A very feeble attempt to clear up, which too place early in the afternoon, failed. Fair at night, with heavy cumulus clouds abov and below.

June 7.—The barometer was comparatively steady to-day, with a tendency to ris toward night. Mean barometer, 30.057. The temperature has been remarkably stead at 35° and 36° all day. Mean thermometer, 35°.7. The relative humidity remaine stationary as on yesterday. Fresh wind from the northwest prevailed until 3 p. m. calm at 8 a. m. After 3 p. m. the direction changed to north, and (gradually) to steady blow from the northeast, the velocity rising to a stiff gale of forty-eight mile per hour at last observation. Fair weather continued until between 2 and 3 a. m. when the summit became enveloped in dense clouds, containing a large percentage o moisture. Light showers of sleet and rain fell during the forenoon, and settled to steady fall of light rain at midday; ended at 5.45 p. m. Cloudy weather closed the day

June 8.—A decided and tolerably even rise took place in the barometer to-day, th instrument reading 30.32 at the last observation. Mean barometer, 30.295. Decreasing temperature in the morning—steady at 33° from 4 to 9 a. m.—increased to 41° i the afternoon, and from 4 p. m. gradually decreased to 36° at midnight. Mean thermometer, 37°.2. Humidity decreased to 72 per cent. during the afternoon, 80 at night The wind came very steadily from the northeast until 3 p. m., when it veered to east and did not change until it returned to northeast at 10.15 p. m. Storm velocity, wit a maximum of sixty miles per hour, opened the day, fell to light wind after midday and increased to brisk at night. Heavy stratus clouds rushed over the summit in th early part of the day. At 9 a. m. the surrounding country rapidly cleared, and in short time there was nothing but a slight haze between us and all below. Cumulu clouds, partially covering the sky, gradually diminished in quantity, and from 7 p. m. and excepting a few streaks on the horizon, the heavens were entirely free from cloud

June 9.—The barometer fell all day to 30.18 at last observation. Mean barometer 30.251. The temperature continued on the decrease to a minimum of 34° in the earl morning, increased after 4 a. m. to 48° at 1 p. m., where the mercury held steadil through the afternoon. From 5 p. m. a steady decrease brought the mercury down t 40° at midnight. Mean thermometer, 42°.7. After the early part of the day, the relative humidity decreased considerably, and ranged between 50 and 70 per cent. Bris wind from the northeast fell off to "gentle," and from midday a calm set in, whic was but little disturbed up to 9 p. m., when a fresh breeze sprang up in the east, gradually moving round by northeast to north at midnight. Until after midday the sk was entirely clear, and then a few cumuli appeared, moving with the prevailing win that was just dying out. Cumulus clouds prevailed in the latter part of the day, and when moving at all, appeared to come from the north or northeast. It was difficult t determine exactly which course the clouds did take; the movement was slow. Clea weather at night. The view of the mountains and departing sun from this point wa remarkably fine and exceptional.

June 10.—Comparatively steady barometer until early afternoon, after that a rathe rapid fall to 30.09 at last observation. Mean barometer, 30.152. The temperatur gradually increased and attained a maximum of 54° at 1 p. m.; steady then at 53°. From 5 p. m. the mercury gradually fell to 46° at midnight. Mean thermometer, 47°.5 To-day the humidity averaged 57.7 per cent., a minimum of 42 per cent. in the afternoon, and a maximum of 69 at night. The wind has been very changeable all day never holding long from one particular point. West and northwest wind prevailed i the morning and latter part of the day, but swept round to southwest late at night Light and fresh velocity, dropping to calm at times, rose to a high wind at midnight When not stationary the upper clouds moved with the prevailing wind, and were al unusually well-defined and in great variety. So light and airy they appeared to b that it was a real pleasure to observe them as they mingled and separated again onl to re-form in greater beauty. Smoke in the valleys.

June 11.—The barometer fell slightly early in the day, but after 9 a. m. graduall rose to 30.08 at last observation. Mean barometer, 30.040. The temperature rapidl increased to 48° at 4 a. m., where it remained stationary until midday, then decrease gradually to 39° at midnight. Mean thermometer, 44°.2. The hygrometer showed a great increase of moisture in the atmosphere. Changeable southwest wind until 9 a. m., when it gradually veered round to a steady wind from the northwest. The velocity increased to a heavy gale, (late in the afternoon,) which reached a maximum of fifty miles per hour at 5 p. m., and then diminished to a brisk wind at night. From 2 to 9 a. m. rain fell without interruption, and sometimes very heavily. Dense clouds covered the summit for the rest of the day.

June 12.—Steady barometer in the morning. After 6 a. m. the mercury rose rapidly and uninterruptedly to 30.31 at midnight. Mean barometer, 30.199. The temperatur decreased to 33° at 4 a. m., and then oscillated between 32° and 36°. Mean thermometer, 33°.5. Humidity averaged 80 per cent. Steady northwest wind changed to orth between 7 and 8 p. m. Fresh and brisk velocity prevailed. It fell to a gentle ind for an hour or two in the morning, and rose to a moderate gale at night. Light ain for half an hour about 2 a. m. From 6 a. m., and up to midday, the ravines were artially filled with heavy cumulus clouds, which moved in winding masses as the ormation of the mountain-sides dictated. From midday, and up to 6 p. m., the summit as capped, giving no opportunity for extensive observation. From 9 p. m. no clouds ere to be seen; the rapidity with which they disappeared was truly astonishing.

June 13.—The barometer rose very rapidly, and reached a maximum of 30.35 at 11 . m. After that hour the mercury fell steadily to 30.26 at midnight. Mean barome- er, 30.300. The temperature steadily increased to 45° at 2 p. m. Steady at 44° for hree hours after, and then decreased to 38° at night. Mean thermometer, 40°.0. reat decrease in the humidity to-day; minimum during the afternoon of 60 per cent. ariable northeast light wind, with numerous calms, until it settled to a fresh wind rom the west and northwest at night. The morning opened with a clear sky. Light tratus and cirrus passed over between 4 and 9 a. m., followed by about two-fourths umulus. After 5.30 p. m. the sky was free from cloud, with the exception of a very light fringe of stratus on the southeastern horizon. Fine, star-light night. From 9 o 10 p. m. an auroral arch appeared in the north; faint yellow color.

June 14.—After 7 a. m. the barometer gradually fell to 30.13 at last report. Mean arometer, 30.212. Temperature very steady at 36° until 7 a. m., when it gradually ncreased and fluctuated for the greater part of the day between 43° and 44°; de- eased to 38° at 9 p. m., and then the mercury rose to 41° at last observation. Mean hermometer, 39°.0. The humidity decreased very rapidly as the day wore on, and at p. m. reached a minimum of 17 per cent.; the smallest percentage that I have ever bserved on this station. Light wind from the west and northwest, but calms pre- ailed through the daylight hours. After sunset there was a light and fresh wind from he southeast. The day has been uniformly fair, and cumulus clouds formed in great ariety. In the latter part of the evening the upper clouds moved steadily from the est.

June 15.—The barometer fell steadily to 30.04 at midnight. Mean barometer, 30.083. fter 6 a. m. the temperature steadily increased to 52° at midday, and remained steady ntil 2.30 p. m., then decreased to 46° at 7 p. m., and did not change through the rest f the day. Mean thermometer, 46°.0. The humidity increased toward the close of he day from 90 to 100 per cent. Light southerly wind fell to a calm between 1 and 2 . m., which latter continued for several hours. Uncertain, gentle wind from the orthwest through the forenoon, became steady after midday, and freshened to high nd moderate gale velocity at night. Fair weather prevailed during the daylight ours, but as evening set in large masses of dense stratus covered and drifted over the ummit. The weather at night was very cloudy and threatening.

June 16.—The barometer rose after early morning to a maximum of 30.13 at 11 a. m. nd then steadily fell to 29.91 at the last observation. Mean barometer, 30.041. There as a steady increase of temperature up to 1 p. m., when the mercury stood at 56°, nd decreased through the rest of the day to 40° at midnight. Mean thermometer, 8°.7. Steady northwest wind all day. The velocity gradually diminished from a risk wind to a calm at noon. After 1 p. m. there sprang up a brisk wind, which in- reased to high and gale as night approached. Clearing weather set in shortly after a. m., and very fair weather prevailed until 6 p. m., when heavy clouds came down rom the northwest and soon enveloped the mountain. At the same time the humidity ensibly increased, and there was every indication of an approaching storm. The wind as very warm, and had settled to a steady blow averaging thirty-two miles an hour. heet and forked lightning flashed over and below the summit from 10.11 p. m. until fter midnight, with the usual accompaniment of heavy thunder, which continued olling, almost without intermission, during the progress of the storm. At 10.30 p. m. eavy rain set in, and did not cease until long after midnight. The upper clouds were early all large cumuli moving from the northwest. I visited stations Nos. 2 and 3 his a. m.; found all well and the work progressing favorably. Mr. Gates (district su- erintendent to the Western Union Telegraph Company) arrived at the base to-night ith a party of men to put up the mountain wire.

June 17.—Steady barometer in the morning. After 5 a. m. the mercury gradually ose to a maximum of 29.97 at 4 p. m. and fell slightly and unevenly after that hour. ean barometer, 29.909. There was a decrease in the temperature of 10° from 1 a. m. o midnight. Mean thermometer, 36°. The wind continues to come very steadily from he northwest, and with heavy gale velocity, which now and then drops to high wind. ain ended at 12.45 a. m. The weather was cloudy until after 7 a. m., when the clouds roke and fair weather set in for the rest of the day. During the forenoon large quan- ties of cumulus cloud filled the ravines to the west of the mountain, sometimes en- rely covering the summits in that direction, excepting that of La Fayette. These ouds passed away as the day wore on, leaving the upper sky perfectly clear. etween 6 and 7 p. m. we gradually became enveloped in dense stratus clouds, which ung over us for two or three hours, and then gradually dwindled to a few faint streaks at midnight. From 10 p. m. until midnight a diffused light appeared in th northern horizon; it was not very distinct in coloring.

June 18.—The barometer rose to a maximum of 30.06 at midday, stood steady for a hour, and then fell rapidly to 29.91 at midnight. Mean barometer, 29.999. The temperature decreased rapidly to 26° at 4 a. m., and remained steady at that point fo two hours. From 6 to 7 a. m. the temperature ran up 6°, (to 32°,) and gradually to 44 in the early part of the afternoon, remaining very steady afterward. Mean thermometer, 41°.0. There has been no change in the direction of the wind to-day. The velocity decreased to a fresh wind at 2 p. m., and then steadily increased to a gale c fifty miles per hour at midnight. From 5 a. m. the sky was partially covered with haze of well-defined cirrus clouds, which at 4.50 p. m. gave place to a veil of ligh stratus clouds. These last gradually descended and covered the summit. After 10.30 p m. the stars were visible through a few breaks in the clouds, and fair weather closed th day. During the latter part of the afternoon a very peculiar cloud was observed t the southeast of and a little above the mountain. It was of a light-brown color, (muc deeper than any other in sight at the time,) and in the shape of a depressed wash-bow or rather fruit-dish, the formation being very accurate. This cloud appeared to be quit stationary, while the others (cirrus) were moving rapidly before the northwest wind.

June 19.—The barometer fell to a minimum of 29.87 at 6 a. m., then rose steadily t 30.03 at 2 p. m., and fell to 29.88 at last observation. Mean barometer, 29.969. Th temperature increased from 42° in the early morning to 53° and 54° at night. Mea thermometer, 50°.2. After midday the mercury was pretty steady from 50° to 54° Steady northwest wind continued until between 6 and 7 p. m., when it backed to west and remained so for the rest of the day. Gale velocity gradually fell off to brisk an fresh wind through the middle of the day, and from 3 p. m. increased to forty-eigh miles per hour at midnight. The day opened with rain, which began at 12.40 a. m., an continued until 4.15 a. m., coming down very heavily at times. Cloudy weather prevailed until it ended in a shower of light rain, which took place between the hours o 2 and 3 p. m. After the shower the clouds rapidly passed away from the summit showing cumulus clouds below, and about one-fourth cirrus above it. In two or thre hours these cirri gave place to cumuli. Haze below; and as night wore on there appeared to be a blending of light stratus with the other clouds, and the sky was frequently veiled by them. Cloudy weather at midnight.

June 20.—The barometer low, and comparatively steady all day. Mean barometer 29.827. The temperature decreased to 45°, where it remained steady from 7 a. m. unti 1 p. m., and then rapidly increased to 49° at 4 p. m. After 5 p. m. the mercury wen down very rapidly to 34° at last observation. Mean thermometer, 43°. From 6 t 7 a. m. the temperature fell 5°; the same rapid decrease took place between 5 and p. m. The wind changed to northwest at 1.30 a. m., and remained steady there for th rest of the day. The wind rose to a storm of sixty miles per hour at 2 a. m., oscillate between "gale" and "brisk" through the day, and rose to a storm at night. Heav rain from 3.15 to 3.45 a. m. Cleared rapidly and fair weather prevailed until sunset when the summit was again covered with dense clouds. Two-fourths to three-fourth cumulus cloud moved with the prevailing wind, frequently capping the summit in it flight. I visited all stations to-day and found everything correct.

June 21.—The barometer oscillated considerably through the day, and rose to 30.0 at last observation. Mean barometer, 29.938. Temperature steady at 30° and 31° i the morning, rose to 36° in the middle of the day, and decreased to very steady thermometer of 32° at night. Mean thermometer, 32°.5. Steady northwest wind up t 3.20 p. m., when it changed to north and blew steadily from that point for the rest o the day. The wind increased in force to sixty-eight miles per hour at 4 a. m., an then rapidly diminished to fresh and brisk. About one-fourth stratus cloud appeare above the summit in the beginning of the day, which rapidly increased in volume an capped the mountain. Between 3 and 4 a. m. the clouds massed in the southeast, showing a clear starlit sky and brilliant moon. This lasted but a few minutes, as the summit was again covered with dense clouds. From 12.30 to 3.25 p. m. we experience light showers of rain, snow, and heavy sleet. Cloudy weather continued to the clos of the day. The wire has been working very hard for the past two days, and gav out entirely this afternoon.

June 22.—The barometer rose steadily all day to 30.27 at last observation. Mea barometer, 30.184. The temperature was very steady in the early morning at 32°, an from 4 a. m. fluctuated between 34° and 36°. Mean thermometer, 34.°2. Win changed to northwest late last night, and back to north at 3.30 a. m. Very uncertai direction through the day, west and nothwest being the prevalent winds up to 7.30 p m., when it died away to calm. Fresh wind from the northeast at night. Calm a midnight. Fresh and gentle velocity prevailed. The clouds lifted for a short perio in the early morning, but up to 7.30 p. m. cloudy weather prevailed. After that th sky cleared rapidly, and Portland, Me., could be easily seen with the naked eye, an the telescope brought the houses out very distinctly.

I made a visit to stations Nos. 2 and 3 to-day, and found the observers at their post and the business going on steadily.

An auroral arch appeared in the north from 10 p. m. until midnight, which extended from northeast to north, and rested upon a dark segment. I found a break in the “ground” and cable; made the necessary repairs.

June 23.—The barometer rose to 30.38 at 11 a. m., and then gradually fell to 30.36 at last observation. Mean barometer, 30.347. The temperature steadily increased to 47° at midday, fluctuated two or three degrees below that point during the afternoon, and settled to 44° at night. Mean thermometer, 43°.5. This has been a very calm day, only a few uncertain puffs from the east and southwest occurring to break the monotony of a dead calm. Fair weather all day. Upper clouds (cumuli) moved from the southwest in the latter part of the afternoon. A very small quantity of stratus appeared at irregular intervals through the day and night. Auroral streamers covered the sky to the north and east from 9.30 p. m. until 2.15 a. m. next morning, gradually diminishing in intensity as they passed from view.

June 24.—The barometer fell slightly in the early morning, and then steadily rose to 30.47 at night. Mean barometer, 30.409. The temperature decreased to 41° at 4 a. m., increased to 51° in the early afternoon, and decreased to 45° at night. Mean thermometer, 46°.7. Prevailing wind from points either side of east, and very frequent calms of long duration. The velocity through the day was gentle; fresh at night. Fair weather all day. The upper clouds moved from the west and northwest nearly all day. After 7 p. m. the night was clear, and between 9 and 10 p. m. a beautiful aurora appeared in the north and extended a considerable distance along the horizon. It was in the form of a lambent flame, which incessantly shot up streamers reaching to the zenith, instantly returning to the main aurora. This continued until after 3 a. m. next morning. I visited the stations to-day, from base to summit.

June 25.—The barometer continued rising to 30.58 at midday, and then gradually fell to 30.54 at last observation. Mean barometer, 30.554. The temperature increased rapidly through the forenoon. The thermometer was steady at 55° and 56° during the afternoon, and dropped to 48° at night. Mean thermometer, 51°.2. Steady northeast wind through the early part of the day; turned to southwest at 3.50 p. m., and immediately after to dead calm. Steady northwester at night. Gentle velocity prevailed nearly all day; brisk at night. Clear and fair weather prevailed all day. Principal upper clouds for the past two days, cumuli. Only a few stratus clouds appeared at long intervals. A bright lambent flame, smaller, but similar to that of last night, appeared in the north from 9.10 p. m. to 3.15 a. m.

June 26.—Up to midday the barometer was steady, and then fell rapidly to 30.36 at last observation. Mean barometer, 30.456. The temperature increased to 59° in the afternoon, and decreased to 49° at midnight. Mean thermometer, 53°.0. Wind steady from the northwest—due west for an hour or two before sundown. Fresh and gentle velocity increased to a high wind at night. Fair weather prevailed all day; clear at night. Principal clouds, cirrus, moving from the west and northwest. Well-defined cirro-stratus (about one-sixteenth) were observed in the morning, and did not altogether lose that character throughout the day. A great quantity of pure and almost transparent cirrus covered the sky. A soft haze covered the mountains and lower country. After 9 p. m., spasmodic auroral displays (“merry dancers”) took place near the northern horizon, and appeared at irregular intervals into the early part of the next morning. Visitors remark upon the scarcity of water in this section of the country. Trains cannot run from the summit, as the springs fail to afford sufficient water to supply the engines.

June 27.—The barometer fell rapidly all day to 30.08 at midnight. Mean barometer, 30.197. The temperature rapidly increased to 59° in the middle of the day, and gradually decreased to 51° at last observation. Mean thermometer, 53°.2. The relative humidity fell to 16 per cent. from 9 to 10 a. m., and increased to 86 at night. Northwest wind changed to west at 5.30 p. m., and continued so for the rest of the day. Calm from 9 to 10 a. m. High wind fell off to fresh and gentle, and increased at night to a moderate gale. Clear and fair weather prevailed. Cirro-stratus clouds predominated and remained stationary through the greater part of the day. As the wind from the west increased in force, the clouds were driven rapidly before it. Toward sundown only a few cumuli dotted the sky. Slight streaks of stratus (well defined) appeared late at night and gradually increased in volume. Haze and smoke covered the lower country.

June 28.—The barometer fell to 30.02 at 10 a. m., and then rose to 30.10 at last observation. The mercury rose and fell very unevenly. Mean barometer, 30.073. The temperature fluctuated between 51° and 53° until late in the afternoon, and, from 4 p. m., gradually decreased to 47° at night. Mean thermometer, 50°.7. The wind veered to northwest between 1 and 2 a. m., and prevailed from that point nearly all day. It moved around to west for an hour or two in the late forenoon, and to north at sundown. After 8.15 p. m. the wind suddenly died away and a calm ensued. High and brisk velocity prevailed; fresh in the forenoon. The day opened with cloudy weather; the summit covered with dense saturating clouds. The humidity rapidly increased to 100 per cent., and light rain fell from 5.30 to 11.45 a. m. Cloudy weather prevailed (with intervals of clearing) until after 9 p. m., when the sky rapidly cleared, and only very slight streaks of stratus cloud remained near the southeastern horizon. Vivid flashes of heat lightning were observed in the south a little before midnight, and a faint aurora appeared in the northeast from midnight until 2.20 a. m. The telegraph constructors are making extensive alterations in the wires, and interrupt operators considerably.

June 29.—After 1 a. m. the barometer fell to 30.06 at 4 a. m., then steadily rose to 30.16 at 11 a. m., and remained steady until 8 p. m. From that hour there was a gradual rise to 30.18 at last observation. Mean barometer, 30.153. The temperature increased to 58° at midday, and remained very steady until late in the afternoon, and decreased to 54° at 8 p. m. From that time the mercury was very steady; mean thermometer, 54°.2; calm until 5.10 a. m., when a variable light wind arose in the west. It died out at 8.20 a. m. Very light puffs from the west and northwest until late in the afternoon, when the velocity increased to "brisk," and changed direction to the south, settling to southwest after 9 p. m. Fair weather prevailed. Shortly before sundown heavy clouds massed on the summit, and for a couple of hours there was every indication of approaching rain. This passed off, and the night set in fair. Heavy cumulus clouds covered the greater portion of the sky after the early part of the forenoon. Haze and smoke prevailed below. Telegraphic communication is very uncertain.

June 30.—The barometer fluctuated between 30.15 and 30.19; mean barometer, 30.183. The temperature was comparatively steady; from 51° to 55°; mean thermometer, 53°.2. Wind oscillated between west and southwest through the early part of the day, and settled at the latter point after 10 a. m. The velocity steadily increased to a heavy gale of fifty miles per hour at midnight. The day opened with a clear atmosphere above the summit, and with the ravines filled with a large quantity of cumulus cloud. After 6 a. m. heavy saturating clouds covered the summit, culminating in light rain at 1 p. m. It held up between 5.30 and 9.20 p. m., then recommenced, and continued after the last observation was recorded, coming down very heavily at times.

INSTRUMENTS, PROPERTY, ETC.

No material change has taken place in the condition of the instruments and property at this station since last report, except the carpet, which is rapidly wearing out.

ALFRED R. THORNETT,
Observer Sergeant, Signal-Service, United States Army.

G.

Daily journal.

BASE OF MOUNT WASHINGTON, NEW HAMPSHIRE.

May 1, 1873.—This station bears due west of the summit. Regular observations commenced at 1 a. m. A few "stratus" clouds were observed at 1 a. m., which soon disappeared, leaving a perfectly clear sky. A light easterly wind prevailed throughout the night, the barometer remaining stationary until about 6 a. m., when it began to rise slowly. The temperature declined six degrees between 1 and 5 a. m., exhibiting a minimum of 30° at 5 a. m., and remaining at that height until 6 a. m., when it began to ascend. Wind veered to southwest at about 6.30 a. m. Fresh to brisk westerly winds during the day, with partly fair and cloudy weather. Maximum temperature, 53°. At 7 p. m. the wind changed to the south, and at 8 p. m. to the southeast, and continued "light" from that quarter during the night. The 10 a. m. signal for observations was not acknowledged by observer on summit.

May 2.—A gentle southeast wind prevailed at 1 a. m., changing to east, shortly after, and remaining in that direction until 7 a. m., when a calm ensued. Barometer steady during the night. The temperature remained at 35° between 1 a. m. and 5.30 a. m., reading 37° at 6 a. m. and 44° at 8 a. m. A few "stratus" clouds were observed in the southwestern horizon between 1 and 2 a. m., giving place to "cirri" moving slowly from west. No signals could be heard from summit between 1 and 4 a. m. A light westerly wind set in at 8 a. m., occasionally shifting to the south and eastward during the day. The sky clouded over with cirro-stratus, spreading into stratus during the forenoon, and light snow commenced at 2.45 p. m., the barometer falling steadily but slowly. The thermometer reached its maximum height at 10 a. m., when it read 30° and fell steadily thereafter. Snow turned to rain at 7 p. m., and the latter to sleet at 9.50 p. m., ending at 11 p. m. Total amount of melted snow, sleet, and rain, 0.49 inch. A very light wind prevailed during the night, shifting between southeast and southwest. No signals heard from summit at 8 p. m.

May 3.—Barometer continues to fall slowly and steadily. The thermometer reached its minimum at 6 a. m., reading 31°.5. Light southeast and southwest winds, with occasional calms, until morning. Dark, threatening stratus clouds were observed in the early morning, and light snow fell between 3.45 a. m. and 4.30 a. m.; the clouds still appearing very heavy and sinking lower down the mountains. Light snow recommenced at 7.40 a. m., a steady but very light westerly wind prevailing. The barometer continues to fall until noon, and rises steadily thereafter. Snow ended at 5.40 p. m., the weather soon after giving signs of clearing up. Light westerly winds prevailed until 7 p. m., when a fresh southeast wind set in which had backed to northeast by 9 p. m., but changed to the west again toward midnight, the weather clearing up finely with change of wind. No signals could be heard from the summit after 8 p m.

May 4.—Barometer continued to rise after midnight. The thermometer reached its minimum at 5 a. m., when it read 23°. A gentle westerly wind prevailed until 3.45 a. m., when the vane swung to the southeast, and to the north at 8 a. m. A few cirri were observed at 1 a. m., which soon disappeared to the southeast, leaving a clear sky. Clear weather continued until 2 p. m., when the sky became partly overcast with cumulus clouds moving from the northwest. A fresh northwest wind prevailed throughout the afternoon, which apparently blew with great force on the summit, as dense clouds of snow were at times observed. Maximum temperature, 48° at 3 p. m. Signals acknowledged regularly after 3 p. m. Barometer continued rising until 7 p. m., when it began to fall slowly; the thermometer rising 2° between 9 p. m. and midnight. A gentle north wind prevailed throughout the night, with fair weather until midnight, when the sky became entirely covered with stratus clouds.

May 5.—The barometer continued to fall slowly until 3 a. m., and remained stationary until 6 a. m., when it began to rise slowly. The fluctuation of the thermometer from 1 to 6 a. m. was very small, not exceeding 2°. At the last-named hour the mercury began to fall, reading 33°.5 at 8 a. m., which is the lowest observed during the morning. Light to fresh northwesterly winds prevailed during the night, followed by a dead calm at 7 a. m., which continued until 9 a. m., when a gentle northwest wind set in. Stratus clouds completely covered the sky during the night, which were observed to move from the northwest at 4 a. m., and at 5 a. m. were moving rapidly from the west, assuming a threatening appearance. Light snow commenced at 6.15 a. m., soon increasing to "heavy snow," and ending at 8.45 a. m., at which time a dense fog set in. Weather remained foggy and misting until 10.45 a. m., when snow began to fall again; the latter at times becoming rain or sleet. At 12 m. the weather showed signs of clearing up, which were verified during the afternoon, the stratus clouds breaking up and assuming the shape of cumuli, moving rapidly from the northwest. A fresh northwest wind prevailed throughout the afternoon, and the barometer continued to rise steadily. All signals were promptly acknowledged by the summit, the line working very well to-day. Clear weather, rising barometer, and light northerly wind at night. Signals not acknowledged by summit at 11.22 p. m.

May 6.—Clear weather and steadily rising barometer between midnight and 9 a. m. The thermometer fell at the rate of 1° per hour until 5 a. m., when it reached a minimum of 23°. Gentle northerly winds prevailed, veering more easterly at 8 a. m. Continued clear weather and fresh west to northwest wind during the afternoon. At 8 p. m. the wind changed to southeast, and remained in that direction up to 12 m. Maximum temperature of day, 45°. Clear weather and rising barometer throughout.

May 7.—Barometer still rising. Clear sky until 5 a. m., when a few cirri were observed on the western horizon. A gentle southeast wind prevailed until 4 a. m., when it changed to the east and to the northwest at 7.30 a. m. Minimum temperature 28° at 4 a. m. Very pleasant weather during the afternoon, with light and variable wind. A few cirri observed on western horizon, moving from the northwest; elsewhere the sky was clear. Maximum temperature 54° at 3 p. m. Barometer remained nearly stationary throughout the night. A gentle north wind prevailing, with generally clear sky.

May 8.—The barometer rose slowly and evenly during the night. The temperature advanced 2° between midnight and 3 a. m., and fell off until 6 a. m., reaching a minimum of 32°.5. A gentle north wind prevailed during the night, with clear sky, until 3 a. m., when the lower atmosphere grew hazy and cirrus clouds began to appear, moving rapidly from the west.

4 *p. m.*—The barometer continued rising until 9 a. m., and has been falling slowly since that hour. The thermometer exhibited a maximum of 58° at 3 p. m. Sky three-fourths covered with cirrus and cirro-stratus clouds moving from the northwest. A gentle westerly wind prevailed until 2 p. m., when a fresh and steady southeast wind set in. Lower atmosphere "hazy."

12 *p. m.*—Wind continued gentle from the southeast, with partly fair and clear weather during the past eight hours. The barometer was nearly stationary until 11.22 p. m., when it began to fall steadily. All signals promptly acknowledged from summit.

May 9, 8 *a. m.*—The thermometer reached its minimum of 33° as early as 1 a. m., and began to rise shortly thereafter, going up to 41° by 5 a. m. The barometer fell slowly and regularly. A gentle southeast wind prevailed until 4.30 a. m., when it shifted to the northeast, veering back to southeast at 7 a. m. A few "cirri" could be seen only until after 3 a. m., when the sky clouded over with stratus, which soon enveloped the entire heavens.

4 *p. m.*—Cloudy weather and fresh southeast wind; the latter shifting to westerly at 11 a. m., but backing to southeast by 1 p. m. Maximum temperature 51° at 1 p. m Barometer falling slowly.

12 *p. m.*—Light rain commenced at 6.10 p. m., the wind at the same time increasing to brisk, blowing in gusts of considerable force, and varying between southeast and east The barometer fell .068 inch between 4.57 p. m. and midnight. Rain ceased at 11.30 p. m.; amount, 0.11 inch. Weather threatening, and wind blowing strong gusts.

May 10, 8 a. *m.*—The barometer has continued to fall during the past eight hours with continued strong gusts of wind from the east and southeast. Rain recommenced at 1.30 a. m., and continued throughout, perfect sheets of it coming down the mountains. Rain-fall, .29 inch.

4 *p. m.*—The minute observations taken between 8 and 9 a. m. disclosed extraordinary fluctuations of the barometer, the mercury alternately rising and falling from .010 to .018 inch in the space of one minute. These fluctuations appeared to be in direct proportion to the force of the strong gusts of wind which followed each other in rapid succession. Rain ceased at 10.05 a. m., and the wind moderated soon thereafter but the weather continued cloudy and threatening until 4 p. m., when the lower clouds began to break up, giving view to cirri and cirro-cumuli moving slowly from the southwest. The wind veered to the south at 2 p. m., and to the west between the hours of 3 and 4 p. m. Maximum thermometer, 58° at 1 p. m. The anemometer record was lost between 2.30 and 6 p. m., the insulating attachment being out of order.

12 *p. m.*—Partly clear and cloudy weather kuring the past eight hours, with steady barometer. Wind shifted to the southeast at 6.30 p. m., blowing gently and steadily from that point throughout.

May 11, 8 *a. m.*—The barometer has been falling slowly since midnight, with very little change of temperature until after 3 a. m., when the thermometer began to rise Minimum temperature, 37°. A gentle southeast wind prevailed until after 5 a. m. when it shifted to the west, and died off soon after. A few "cirri," were observed in the southern horizon between 1 and 4 a. m., which were followed by stratus rising over the mountains on the southeast, and covering the entire sky by 7 a. m.

4 *p. m.*—Variable light airs and calms until 10 a. m., when a fresh southeast wind set in, which shifted to the northwest at 3.30 p. m. Weather became threatening toward noon, and rain began to fall at 2.20 p. m. The barometer fell slowly throughout, and the minute observations made between 2 and 3 p. m. showed considerable fluctuations of the mercury, especially during the ten minutes preceding the beginning of rain. Maximum temperature 59° at 2 p. m.

12 *p. m.*—Rain continued throughout the night. Total rain-fall during twenty-four hours 0.97 inch. The barometer fell .100 between 4.57 p. m. and midnight, while the temperature has changed but little in the past eight hours. A light southeast wind prevailed until about 8 p. m., when a calm ensued. Between 9 and 10 p. m. a light northerly wind sprang up, which continued up to midnight.

May 12, 8 *a. m.*—The barometer fell slowly until 6 a. m., when the pressure increased slightly. The thermometer fell 1° from midnight to 2 a. m., reading 39° at the latter hour, which is the minimum during the morning. Continuous rain throughout. A gentle north wind prevailed until 6.15 a. m., at which time the wind died out completely.

4 *p. m.*—Rain ceased at 10.45 a. m., and the clouds began to break up toward noon Partly fair and cloudy weather during the afternoon. The barometer has been steady with a slight tendency to rise. Maximum temperature 50° at 3 p. m. Light and fresh variable northerly winds have prevailed during the past eight hours, but the clouds moved steadily from the northwest.

12 *p. m.*—Barometer has risen very slowly and the weather cleared up gradually Gentle northerly to westerly winds continued until 11 p. m., veering to easterly at that hour. Barometer falling at midnight.

May 13, 8 *a. m.*—Barometer has fallen steadily since midnight. Minimum temperature 34° at 2 a. m. No clouds were visible until 6 a. m., when a dense bank of stratus was observed rising in the southern horizon, which increased rapidly and soon covered the entire sky. Variable easterly winds throughout, veering more southerly toward 8 a. m

4 *p. m.*—The barometer fell quite rapidly until 3.25 p. m., when simultaneously with a change of wind from southeast to northwest, it began to rise. Light rain began at 10.25 a. m., and continued at intervals. The wind, until 3.25 p. m., was from the southeast, but the lower clouds moved steadily from the southwest, and later from the west Maximum temperature 52° at 1 p. m.

12 *p. m.*—Partly fair and cloudy weather, with fresh northwest wind. Barometer rising slowly.

May 14, 8 *a. m.*—The barometer has risen slowly during the past eight hours, with cold and cloudy weather. Light snow between 4.50 and 7.15 a. m. Minimum temperature 30° between 3 and 6 a. m. A fresh northwest to southwest wind prevailed throughout.

4 *p. m.*—The barometer has been falling very slightly since 8 a. m. and the thermometer has changed but little. Maximum temperature, 34° at 12 m. The weather has continued cloudy, with light snow at short intervals. Sleet fell between 11.25 and 11.50 a. m. Fresh westerly wind prevails.

12 *p. m.*—Snow fell until 8.40 p. m. Cold and cloudy weather continued. Barometer still falling slowly. Fresh westerly winds throughout. Amount of melted snow .04 inch.

May 15, 8 *a. m.*—The barometer changed but little until after 4 a. m., when it began to rise slowly and more rapidly after 6 a. m. The thermometer fell from 28° at 1 a. m. to a minimum of 26° at 2 a. m., keeping at that height until after 6 a. m. when it began to rise slowly. Fresh and brisk northwest to north winds throughout with cloudy weather. A light mist commenced at 6.45 a. m., turning into light snow.

4 *p. m.*—Snow ended at 11.30 a. m., but the weather continued cloudy and threatening, with "gentle to fresh" northwest wind. Maximum temperature, 41° at 2 p. m. Barometer rising.

12 *p. m.*—The weather gave signs of clearing up after 9 p. m., and all clouds but a few cirri had disappeared at 11 p. m. Light westerly winds veered to the north at 9. p. m. The barometer continued to rise until 8 p. m., and remained nearly stationary after that hour.

May 16, 8 *a. m.*—The sky became overcast soon after midnight, and remained so throughout. The thermometer reached a minimum of 32° at midnight. and rose 2° by 2 a. m., remaining at 34° until 6 a. m. Light northerly winds throughout. The barometer has been very steady during the past eight hours.

4 *p. m.*—The barometer has continued very steady. Light rain commenced at 11.10 a. m., and continued until 12.40 p. m., the weather remaining cloudy. Gentle northwest to westerly winds throughout. Maximum temperature, 48° at 2 p. m.

12 *p. m.*—Continued cloudy weather and light north and northwest wind. The barometer has risen slightly.

May 17, 8 *a. m.*—Light rain between 2.50 and 4.10 a. m. Weather still cloudy, barometer steady. A light north wind prevailed until 2.15 a. m., followed by a calm which lasted until 4.10 a. m., when a gentle westerly wind sprung up. Maximum temperature 35°.5 at 6 a. m.

4 *p. m.*—The barometer has risen slowly during the past eight hours. Cloudy weather continues, with light squalls of rain and sleet. The wind veered to the northeast at 3 p. m. The maximum temperature, 45° at 1 p. m.

12 *p. m.*—Sleet and rain until 9.40 p. m., with light winds, the latter backing to northerly at 9 p. m., and to northeast at 11 p. m. Barometer rising until 9 p. m., when it fell slowly until 10 p. m. and remained stationary up to midnight. Total amount of melted snow and rain, 0.13 inch.

May 18, 8 *a. m.*—The barometer fell steadily until 4 a. m., and began to rise slowly after 5 a. m. The thermometer stood at 35° until after 4 a. m., when it fell slightly up to 7 a. m., reaching a minimum of 33°.5. Light rain commenced at 1.45 a. m., turning into heavy snow at 4.40 a. m., which ceased at 5.30 a. m., but recommenced at 6.15 a. m. Variable light winds and calms throughout.

4 *p. m.*—Frequent short squalls of sleet between 11 a. m. and 2 p. m., with light to fresh northwesterly winds throughout. Barometer rising slowly. Weather gives promise of clearing up. Maximum temperature, 45° at 3 p. m.

12 *p. m.*—The barometer has risen steadily during the past eight hours, and the weather cleared up finely. Fresh northwest winds until 8 p. m., when it veered to the north. The thermometer fell to 30° at 11 p. m., which is the minimum of the day; a few clouds appearing at midnight. Amount of melted snow and sleet, .36 inch.

May 19, 8 *a. m.*—The barometer fell uninterruptedly between midnight and 5 a. m., and is now rising slowly. The temperature has been steadily increasing since midnight, reading 31° at that hour, 33° at 3 a. m., 37° at 6 a. m., and 41° at 8 a. m. The sky became overcast soon after midnight with stratus clouds, which now appear to be breaking up. A light northerly wind prevailed, veering to the northwest at 7 a. m.

4 *p. m.*—The barometer has been rising steadily since 8 a. m.; maximum temperature, 49°, at 3 p. m. The weather has partly cleared up, the clouds having a greater elevation and being broken up into large cumulo-stratus and cumulus clouds. A fresh northwest wind prevailed, veering to the north between 3 and 4 p. m.

12 *p. m.*—The weather cleared up entirely by 8 p. m., and remained clear throughout the night. The wind veered to the northeast soon after 4 p. m., blowing gently and steadily from that quarter during the past eight hours. The barometer has risen

steadily. The temperature declined until 10 p. m., and remained stationary betwee that hour and midnight.

May 20, 8 *a. m.*—The barometer remained nearly stationary until after 3 a. m., sinc which time it has been rising steadily. The thermometer stood at 31° between midnight and 3 a. m., fell to a minimum of 30° at 4 a. m., and began to rise between 5 an 6 a. m. The weather has continued clear with light winds, the latter having veered t the east at 1 a. m., backed to the north at 4 a. m., and to the northwest at 8 a. m.

4 *p. m.*—The barometer continued to rise until 10 a. m., remained stationary unti about 2 p. m., and has since been falling slowly. Maximum temperature, 58°. The sk was perfectly clear until after 12 m., when a few cumuli made their appearance in th southwestern horizon. Variable light airs until noon, when a steady gentle breeze se in from the northeast, which continued until after 3 p. m., shifting to a fresh westerl wind at that time.

12 *p. m.*—The barometer rose steadily between 4 and 10 p. m., and remained abou stationary during the last two hours. The thermometer fell very regularly from 57° a 4 p. m. to 36° at midnight. The weather cleared up again completely by 9 p. m. an remained so throughout the night. A steady gentle southeast wind prevailed betwee 6 p. m. and midnight.

May 21, 8 *a. m.*—Clear weather and gentle to fresh easterly winds throughout. Barometer very steady until after 6 a. m., when it commenced to rise. The thermomete changed but little between midnight and 6 a. m. A minimum of 34° was reached a 3 a. m.

4 *p. m.*—The barometer has been falling steadily since 8 a. m., and the sky has gradually clouded over with "cirri" moving from the southwest and spreading into stratu toward evening. The thermometer rose rapidly during the forenoon, reaching a maximum of 59° at 2 p. m. A faintly colored halo was observed between 11 a. m. and noon Fresh but very variable winds throughout.

12 *p. m.*—Sky assumed a threatening appearance after night-fall, and rain commence to fall at 11.50 p. m. Barometer falling. Variable westerly winds until 9 p. m., whe a gentle northeast wind set in.

May 22, 8 *a. m.*—Rain ended at 4.30 a. m., but the weather continues threatening Light northerly winds during the night, backing to westerly at 5 a. m. The thermometer stood lowest at 1 a. m., reading 40°; rose to 44° at 5 a. m., and fell off again to 41 at 6 a. m. Barometer falling slowly.

4 *p. m.*—Continued cloudy weather, variable light airs and calms. Barometer falling slowly. Maximum temperature, 53° from 1 to 2 p. m.

12 *p. m.*—A very steady and light southeast wind set in after 4 p. m., which continue throughout the night. Weather cloudy and barometer falling. The thermometer fell to 46° at 6 p. m., and remained near that height throughout the night.

May 23, 8 *a. m.*—Continued cloudy weather, falling barometer, and gentle southeas wind. Temperature fluctuating between 45° and 46° until after 6 a. m., when it bega to rise steadily.

4 *p. m.*—Weather still cloudy and barometer falling. The thermometer rose rapidly, reaching a maximum of 64° at 2 p. m. Wind very variable, but chiefly southerly, with a "light to fresh" velocity.

12 *p. m.*—Southerly winds continued until after 7 p. m., when a steady north wind se in, which held on through the night. Weather partly fair and cloudy, the clouds moving with great velocity from a southerly point. The thermometer fell to 54° at 8 p. m., remaining near that point during the rest of the night. Barometer falling.

May 24. 8 *a. m.*—Partly fair and cloudy weather during the past eight hours, with light to fresh winds, the latter shifting to southeast at 4 a. m. Barometer falling steadily. The thermometer fluctuated between 49° and 50° until 6 a. m., when i reached a minimum of 48°, and began to rise soon after.

4 *p. m.*—Wind shifted to the westward after 8 a. m., and increased to very fresh. Fair weather until noon, when the sky clouded over, and heavy rain fell between 1.2 p. m. and 1.50 p. m.; after 3 p. m. the weather cleared up partly. The atmosphere appears to be charged with an unusual amount of electricity, as the telegraph-wire is much affected by it. Barometer falling throughout. The thermometer rose rapidly during the forenoon, reaching a maximum of 69° at 12 a. m. After rain ceased it fell off to 53° at 3 p. m., and has now risen to 63°. Rain-fall, 0.11 inch.

12 *p. m.*—Cloudy and threatening weather, with fresh northwest wind. The thermometer fell to 51° at 11.22 p. m. The barometer has risen since 4 p. m.

May 25, 8 *a. m.*—Light rain commenced at 12.45 a. m., and continued until 7.40 a. m. Rain-fall, .17. The thermometer reached a minimum of 46° at 6 a. m. Barometer rising. Fresh northwesterly winds throughout. The weather appears to clear up after the rain ceased.

4 *p. m.*—Fair weather, rising barometer, and gentle northwest wind. Maximum temperature, 67° from 2 to 3 p. m.

12 *p. m.*—The barometer has risen steadily during the past eight hours, and thermometer fell rapidly until 11 p. m., reading 43° at that time, which is the minimum of the

day. Fair weather and gentle northwest wind until 6 p. m. Clear sky and light north wind thereafter.

May 26, 8 *a. m.*—Clear sky until after 6 a. m., when a few cirri and cirro-cumuli appeared in the western horizon, which are gradually increasing. The barometer has continued to rise, and the thermometer stood at 43° between midnight and 5 a. m., and began to rise rapidly after 6 a. m. Gentle to fresh north wind throughout.

4 *p. m.*—The barometer has been falling slowly since 8 a. m., with increasing cloudiness and hazy sky. The thermometer reached a maximum of 72° at 12 m., and remained high (71° to 70°) until 4 p. m. Gentle west and northwest winds throughout.

12 *p. m.*—Wind backed to the southeast at 7 p. m. Weather cloudy, and barometer falling.

May 27, 8 *a. m.*—Gentle southeast wind during the early morning, veering to the east at 6.30 a. m. Barometer falling. The thermometer fluctuated between 50° and 51° between midnight and 6 a. m., rising to 56° at 7 a. m. Weather cloudy.

4 *p. m.*—Partly fair and cloudy weather during the past eight hours, with light southerly winds. Thermometer, 74° at 1 p. m. Barometer falling steadily.

12 *p. m.*—A steady southeast wind set in at 8 p. m. Weather fair and barometer falling.

May 28, 8 *a. m.*—Gentle southeast wind continued during the night and veered to the westward at 7.30 a. m. Sky partly overcast with cirrus and stratus clouds moving from the west. Minimum temperature, 51°.5 at 5 a. m. Barometer falling.

4 *p. m.*—Cloudy weather and fresh westerly winds. Light rain-shower between 10.15 and 11.30 a. m. Barometer continues to fall. Maximum temperature, 70°.

12 *p. m.*—The barometer commenced to rise after 4 p. m., and a fresh northwest wind prevailed during the past eight hours. The weather cleared up between 9 and 11 p. m., but became overcast again toward midnight. Thermometer fell to 57°.

May 29, 8 *a. m.*—Light and variable westerly winds since midnight; sky covered with low stratus clouds. Barometer rising steadily. Minimum temperature, 51° at 5 a. m.

4 *p. m.*—The weather cleared up during the forenoon, and continues "fair." The barometer changed but little after 9 a. m. Maximum temperature, 68° at 2 p. m. Fresh "westerly" winds throughout. Sergeants Lloyd and Sackett relieved from duty as assistants by Privates Seely and Smith.

12 *p. m.*—The barometer began to fall after 5 p. m., and fell steadily up to midnight. Temperature declined to 51° at 9 p. m., remained at that point until 11 p. m., and rose to 54° at midnight. Fresh northerly to westerly winds until 8 p. m., and light easterly wind thereafter. Sky overcast after 9 p. m.

May 30, 8 *a. m.*—Barometer remained about stationary between midnight and 5 a. m., and has risen steadily since the latter hour. The thermometer fell throughout the night, reaching a minimum of 37° at 6 a. m. Wind very variable. A dense fog set in at 4 a. m., which was succeeded by sleet at 7.30 a. m.

4 *p. m.*—Sleet ended at 8.20 a. m., and the weather began to clear up. Fresh but variable northerly winds throughout. Maximum temperature, 50°. Barometer rising steadily.

12 *p. m.*—Partly fair and cloudy weather during past eight hours, with nearly clear sky at midnight. The barometer has continued to rise steadily. The thermometer fell to 2°.5 at midnight, which is the minimum of the day. Wind from all points of the compass, with a "gentle to fresh" velocity.

May 31, 8 *a. m.*—Cold and cloudy during the early morning, the thermometer falling to 29° at 4 a. m. Light and variable winds throughout. Weather clearing up after 5 . m. Barometer still rising steadily.

12 *p. m.*—Clear and pleasant weather throughout the day, with fresh westerly winds during the afternoon, and easterly winds at night. Barometer high and steady. Maximum temperature, 56° at 3 p. m. The instruments have remained in excellent condition throughout the month of May, and all observations were made at the proper hours.

Journal for the month of June.

June 1, 1873.—Commenced with clear sky and gentle easterly winds. Barometer high and steady. Thermometer fluctuating between 39° and 40° until after 5 a. m. During the forenoon the sky became gradually overcast with cirri moving from the northwest, and the barometer began to fall. Wind changed to the northwest at 8 a. m., increasing to fresh and brisk. At 1 p. m. the sky was completely overcast with cirro-stratus clouds and the weather assumed a threatening appearance, but cleared up partly toward evening, and the wind diminished in force. Maximum temperature, 6°. Barometer rising slightly toward midnight. Auroral display from 10.30 to 11.30 . m., consisting of several streamers of a uniform bluish color, apparently radiating from a common center below the northern horizon and extending half way to the zenith. The telegraph instrument was constantly at work during the display.

June 2.—Day opened with fair weather and light northerly wind. Barometer rising

Temperature falling from 54° at midnight to 37° at 5 a. m. Wind changed to the we and northwest between 9 and 10 a. m., increasing to fresh and brisk. Partly fair an clear weather during the afternoon; lower atmosphere, smoky. Barometer about st tionary. Maximum temperature, 58° at 3 p. m. Variable light airs and calms durin the night, weather fair, sky partly covered with fine cirri moving very slowly from th north, and giving rise to a faint halo at 9 p. m. Temperature falling to 40° at 10 p. and remaining about constant after that hour.

June 3.—Very hazy sky throughout the day. Upper clouds a continuous sheet of fin cirro-stratus, subsiding into stratus toward midnight. A well-defined, brightly-colore halo was visible at 1 p. m., forming one complete circle around the sun. At 3 p. m. th western half of the halo was still visible, and did not entirely disappear until afte 5 p. m. Barometer rising until 7 a. m., and falling steadily thereafter. Tempe ature very low in the morning; minimum, 37°, rising to 59° during the afternoon, an remaining steady at 44° during the night. Gentle northeast wind between midnigh and 8 a. m., followed by fresh westerly winds until 6 p. m., when a calm ensued. light south wind set in at 9 p. m.

June 4.—Commenced with threatening weather, and light southerly wind. Barom ter falling steadily. Thermometer steady. Light rain commenced at 2.30 a. m., an continued until 10.30 a. m. The wind changed to the northeast at 8 a. m. and th clouds descended lower down the mountains. Weather cleared up somewhat after rai ceased and the temperature rose rapidly, reaching a maximum of 66°. Baromete falling quite rapidly during the afternoon. Wind light and variable with frequen calms. Rain recommenced at 6 p. m., and continued throughout the night. The lin works so badly that the signals could not be regularly acknowledged by stations and 2.

June 5.—Rain ended at 5.20 a. m., but the weather continued cloudy and threatenin until evening, the clouds being very low during the forenoon, enveloping all the moun tains. Wind light and variable, from all points of the compass. Thunder-storm wit heavy rain between 3.10 p. m. and 3.45 p. m. Barometer rising slowly. Temperatur comparatively high during the afternoon, (64°–66°,) but falling to 47° at midnight.

June 6.—Day opened cold and cloudy. Thermometer 44° to 46°. Wind "easterly, light. Barometer rising slowly during the forenoon. Light rain-showers in the afte noon, with some lightning. Variable westerly to northerly winds, with frequen calms after 9 a. m. Barometer nearly stationary during the afternoon and risin toward night. Maximum temperature, 65°. Quite a heavy rain-shower advance rapidly from the westward, reaching the base at 1.15 p. m., and ascending Moun Washington. The observers on stations 1 and 2 report "heavy hail" at that time.

June 7.—Commenced "cold and cloudy," with light easterly winds and calms. Win changed westerly at 7 a. m., and continued from that direction with gentle to fres velocity until 8 p. m., when it backed to the east. Barometer rising throughout The thermometer stood lowest at 3 a. m., (44°,) reached a maximum of 56° at 11 a. m. and fell to 48° at 8 p. m., remaining steady during rest of night. Cloudy weathe during the forenoon. Numerous rain-showers during the afternoon and night; rai ceased at 11 p. m.

June 8.—Weather continued cloudy during the night, with fresh easterly winds Thermometer steady at 48°. Barometer rising. Toward morning the clouds began t break up, and the wind shifted to the westward, being very variable, but the cloud continued to move from the east and northeast. Barometer rising until noon, and re maining about stationary thereafter. Thermometer steady at 62° during the afternoon at 8 p. m. the last remnant of cloud had disappeared, and the sky was perfectly clea during the rest of the night. A gentle east wind prevailed during the night.

June 9.—Day opened clear and cool, with gentle easterly wind. Light fog at day break. Barometer steady. Weather continued clear until noon, when the sky becam partly overcast with cumulus clouds, which disappeared again at 6 p. m., leaving a clea sky. Temperature high during the afternoon. Variable northerly winds during the da and night. Barometer falling steadily after 6 a. m.

June 10.—Fair weather, with light and fresh northerly to westerly winds, throughout the day; sky "hazy." Barometer falling steadily. Thermometer steady fro midnight to 6 a. m., and rising rapidly thereafter, exhibiting a maximum of 74°.5 at p. m.; at 9 p. m. the wind changed to the south, and the temperature, which had declined rapidly between 7 and 8 p. m., rose 3°, and remained steady at 62° during the rest of the night. The sky clouded over with stratus clouds toward midnight.

June 11.—Day opened with threatening weather, and light southerly to easterl winds. Barometer falling. Temperature high and steady. Rain commenced at 3.5 a. m., and continued until 7.40 a. m. The wind changed to the northwest shortly before the rain ceased, and the barometer began to rise after 8 a. m. Cloudy weather with fresh northwest wind and rising barometer, during the remainder of the day.

June 12.—Partly fair and cloudy weather during the day, with variable light wind and calms. Temperature low. Barometer rising throughout. At 9 p. m. no cloud were to be seen, and the weather continued clear up to midnight.

June 13.—Day opened fair and cold. Thermometer stationary at 39°. Barometer high and steady. The light north wind which prevailed at midnight died off at 12.15 a. m., and a "dead calm" continued until 4.15 a. m., when a light easterly wind set in, which changed to the westward toward noon, the barometer falling slightly during the forenoon, and temperature increasing rapidly. Partly fair and clear weather during the afternoon and night, with fresh westerly wind, the latter backing to southerly at 7 p. m.

June 14.—Partly fair and clear weather and slowly falling barometer throughout. Variable light and fresh winds, chiefly westerly until 7 p. m., when a calm ensued, which was followed by light airs from the northward at 11 p. m. Sky partly covered with cirri moving from the northwest. The thermometer fell from 48° at 1 a. m. to 43° at 4 a. m., reached a maximum of 64° at 1 p. m., and declined rapidly after sundown, reading 43° at midnight. The 5 a. m. observation was lost by Assistant Observer J. H. Smith, who fell asleep before the time of taking the observation.

June 15.—Partly fair and cloudy weather, with gentle northerly to westerly winds. Barometer falling.

June 16.—Day opened "cloudy," with light airs from the north, and calms. Barometer steady. The barometer rose 3° from midnight to 1 a. m., and remained stationary at 57° until 5 a. m. Weather cleared up partly after 6 a. m.; and a heavy "haze" prevailed during the fore and afternoon. Temperature very high, ranging from 72° to 75°, a fresh northwest wind prevailing at the time. The barometer remained steady until after 2 p. m., when it began to fall. At 9 p. m. silent lightning was observed in the northwest horizon, followed by quite a severe thunder-storm. Rain commenced at 10.25 p. m., and continued up to midnight.

June 17.—Rain ceased at 1.15 a. m., but the weather continued threatening during the morning, with fresh northwest wind. Barometer fell considerably between midnight and 2 a. m., and began to rise at 3 a. m. Thermometer steady, changing only 2° during the night. At 9 a. m. the weather began to clear up, and by 3 p. m. the sky was perfectly clear. Rising barometer and fresh westerly to northerly winds throughout. The temperature increased very slightly during the afternoon, and fell off rapidly after sunset, reading 43° at midnight.

June 18.—Day commenced clear and cold, with a gentle breeze from the north. Barometer rising slowly. During the forenoon the sky became gradually overcast with "cirri," moving from the northwest, and the barometer began to fall. Fresh westerly winds during the day, veering more southerly at 7 p. m. Barometer still falling at night, and the weather becoming threatening.

June 19.—Light rain between 2.15 a. m. and 4.15 a. m., the barometer falling until 3 a. m. and rising slowly thereafter. Cloudy and very hazy weather during the forenoon, with rapidly-rising temperature and fresh northwest wind. Rain recommenced at 2.25 p. m. and continued until 3.30 p. m.; the barometer rose rapidly between 2 and 3 p. m., but fell steadily after 3 p. m.

The weather cleared up after rain ceased, and the wind changed to the northeast, being very variable after 6 p. m. The thermometer, which at noon read 74°, fell to 64° at 3 p. m., rose to 70° at 6 p. m., and fluctuated between 66° and 70° during the remainder of the night.

June 20.—The barometer fluctuated greatly between midnight and 4 a. m., remained nearly stationary between 5 a. m. and 3 p. m., and rose steadily during the remainder of the day. Heavy rain between 2.50 and 3.30 a. m., the temperature being exceptionally high until after the commencement of rain. Fresh westerly winds prevailed at midnight, easterly at 4 a. m., and dying off at 7 a. m., being followed by a fresh northwest wind, which increased to a brisk velocity toward noon, and moderated toward night. Generally fair weather after 5 a. m. Sky partly covered with cumulus and stratus clouds, moving with great velocity from the northwest. The temperature declined rapidly after 7 p. m., reading 48° at midnight. Aurora appeared at 11.05 p. m. in the form of a band of light, extending in a northwest and southeast direction, from a point about 10° above the northwest horizon to some 5° past the zenith, the thickest part near the horizon. Brilliant on first appearance, but rapidly faded away from the zenith downward, and disappeared at 11.16 p. m. In general appearance it resembled the tail of a comet.

June 21.—Day opened cold and fair; calm until 4 a. m., when a light northwest wind set in, which continued throughout, increasing to very fresh during the forenoon, and diminishing in force at night. Barometer fluctuating until noon, and rising steadily thereafter. The sky became overcast at 10 a. m., and a heavy shower of hail, followed by rain, fell between 12.20 p. m. and 2.30 p. m. Cold and cloudy weather during the afternoon and evening, the clouds began to break up after 9 p. m., and the weather promised fair up to midnight. The temperature fluctuated considerably during the twenty-four hours, being 45° at 1 a. m., 43° at 6 a. m., 57° at 12 m., 47° at 1 p. m., 51° at 4 p. m., and 39° at midnight. The cable worked so poorly after 8 a. m. that the signals could not be properly acknowledged.

June 22.—Day opened with fair weather and light north wind. Temperature 36° to 38°. Sky clouding up after 7 a. m., and weather continues cold and cloudy throughout the day, with light and variable winds. Toward night a steady northeast wind set in, and the weather cleared up completely by 9 p. m. Barometer rising steadily throughout.

June 23.—Clear weather, with gentle north to northeast wind from midnight to 8 m.; thermometer steady at 40° during the early morning. At 9 a. m. the wind change to west, and the sky commenced clouding up with cumulus and stratus clouds, movin from the southeast. Cloudy weather with gentle westerly wind during the afternoo Thermometer, 60° to 68°. At 6 p. m. the wind hauled southerly, and the clouds bega to break up. No clouds visible after 9 p. m. The barometer rose steadily until noo and remained about stationary thereafter.

June 24.—Day opened clear and pleasant with gentle southeasterly wind. Durin the forenoon the weather became cloudy, and wind changed to north and west; clea ing up toward evening, wind backing to southeast. Clear sky after 9 p. m. Barome ter rising throughout. Temperature high.

June 25.—Partly fair and clear weather, with very high barometer and high temper ature. Wind variable from all points of the compass, but clouds moving steadily fro eastward. Barometer steady.

June 26.—Continued fair and warm weather. Sky partly covered with cirri an haze. Barometer falling steadily after 10 a. m. Light southeast wind during the earl morning, light to fresh westerly winds during the day, and gentle northerly winds a night. Maximum temperature, 78°. At 10.56 p. m. a brilliant aurora made its appearance in the form of five distinct parallel bands of light, extending from the northwes horizon to some 10° past the zenith. These bands shot up in waves, alternately approaching and receding, and gradually lengthening until they reached the southeas horizon. At 11.08 it began to fade away until almost invisible, but at 11.12 suddenl increased in brilliancy, covering the sky from northwest to east 15° north with wave of light extending past the zenith. This continued until 11.25; from that time th aurora slowly faded away, until it disappeared at 11.55 p. m.

NOTE.—During the presence of the aurora, particularly during the time of its greatest brilliancy, the telegraph-wire was strongly charged with electricity, the instrumen working the same as during the thunder-storm.

June 27.—Day opened clear and pleasant, with gentle northeast wind. At 5 a. m the sky became partly covered with cirri, and the lower atmosphere grew hazy; win shifted to west at 10 a. m., the temperature increasing rapidly, and weather clearin up again until evening. Partly fair and cloudy weather during night. The baromete fell uninterruptedly throughout.

June 28.—Day opened warm and cloudy, with light easterly winds. Barometer falling. Light rain commenced at 6 a. m. and continued until 10.40 a. m., when th barometer began to rise and the wind shifted to the westward. Cloudy weathe during the afternoon, with high temperature and slowly-rising barometer. Clearin up toward evening—clear sky after 10 p. m. About 10.30 a. m. a frightful acciden occurred to Private William Seely, one of the assistants attached to this station. H was sliding down the track from the Waumback House (station No. 3) on a board when he was run into by Sergt. D. H. Sackett, who, being unable to control his board in consequence of the track being very slippery from the effects of a prevailing rain struck Seely's board with tremendous force. Seely was thrown forward on his head and, striking on the cross-ties, was fearfully mangled. Sergeant Sackett instantl summoned assistance, and through the kindness of Mr. Walter Aiken a train was a quickly as possible run to the place where the accident occurred, and Private Seel was conveyed to the railway-depot. It was not until 10 p. m. that a surgeon could b obtained, the wire to Littleton being down. On being apprised of this fact Sergean Sackett rode to Littleton and procured the services of Dr. Bugby. On examinatio Seely's injuries were found to consist of a fractured skull, his right leg broken abov the knee, his left ear torn off, and in addition the muscles of his chest and his vertebral column severely wrenched. As he was apparently suffering great pain, and required constant watching, by the advice of Dr. Bugby I consented to his removal t Littleton, where he could have proper nursing and medical attendance. Private Seel was unconscious up to the time of his removal, which took place on the morning o the 29th. Thanks are due to Mr. W. Aiken and employés of the Mount Washingto Railroad, also to Mr. Edward Cox and ladies, for kind and efficient help rendered th suffering man.

June 29.—Partly fair and cloudy weather, with very high temperature and ligh variable winds. Barometer fluctuating and rising slowly. The minute observation between 9 and 10 p. m. had to be dispensed with, as the office was being fitted up b Mr. Gates, of the Western Union Telegraph Company, and the barometer had to b taken down.

June 30.—Warm and cloudy weather throughout. Barometer rising slowly. Gentl southerly winds during the day, increasing to fresh at night. The instruments remained in good condition during the month, with the exception of three cups of th Daniells battery, which became leaky.

ROBERT SEYBOTH,
Observer-Sergeant, Signal-Service, United States Army.

Meteorological record for May 1, 1878.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	a. m.					a. m.					a. m.					a. m.			
Summit	8 0	23.885	51	23.842	Summit.	8 15	23.883	55	23.831	Summit.	8 30	23.873	56	23.819	Summit.	8 45	23.870	56	23.816
Base ...		27.380	47	27.324	Base ...		27.386	48	27.328	Base ...		27.390	50	27.328	Base ...		27.391	51.5	27.325
Summit	8 1	23.884	52	23.839	Summit.	8 16	23.883	55	23.831	Summit.	8 31	23.875	56	23.821	Summit.	8 46	23.865	56	23.811
Base ..		27.380	47	27.324	Base ...		27.386	48	27.328	Base ...		27.391	50.5	27.328	Base ...		27.390	51.5	27.324
Summit	8 2	23.888	52	23.837	Summit.	8 17	23.883	55	23.831	Summit	8 32	23.876	56	23.822	Summit.	8 47	23.867	56	23.813
Base ..		27.380	47	27.324	Base ..		27.386	48.5	27.327	Base . .		27.392	50.5	27.329	Base ...		27.390	51.5	27.324
Summit	8 3	23.879	52	23.834	Summit.	8 18	23.880	55	23.828	Summit.	8 33	23.879	56	23.825	Summit.	8 48	23.870	57	23.814
Base ..		27.383	48	27.325	Base ...		27.380	49	27.320	Base ..		27.393	50.5	27.330	Base ...		27.390	51.5	27.324
Summit	8 4	23.880	53	23.832	Summit.	8 19	23.880	55	23.828	Summit.	8 34	23.870	56	23.816	Summit.	8 49	23.875	57	23.819
Base ...		27.383	48	27.325	Base ..		27.389	49.5	27.328	Base ...		27.390	50.5	27.327	Base ...		27.392	51.5	27.326
Summit	8 5	23.880	53	23.832	Summit	8 20	23.879	55	23.827	Summit.	8 35	23.873	56	23.819	Summit.	8 50	23.875	57	23.819
Base ...		27.384	48	27.326	Base ...		27.389	50	27.327	Base ...		27.391	51	27.326	Base ...		27.393	51.5	27.327
Summit	8 6	23.880	53	23.832	Summit.	8 21	23.879	55	23.827	Summit.	8 36	23.873	56	23.819	Summit.	8 51	23.870	57	23.814
Base...		27.384	48	27.326	Base ...		27.389	50	27.327	Base ...		27.387	51	27.322	Base ...		27.393	51.5	27.327
Summit	8 7	23.880	54	23.830	Summit.	8 22	23.880	55	23.828	Summit.	8 37	23.871	56	23.817	Summit.	8 52	23.870	57	23.814
Base ...		27.383	48	27.325	Base ...		27.389	50	27.327	Base ...		27.388	51	27.323	Base ...		27.394	51.5	27.328
Summit	8 8	23.881	54	23.831	Summit.	8 23	23.880	55	23.828	Summit.	8 38	23.870	56	23.816	Summit.	8 53	23.868	57	23.812
Base ..		27.383	48	27.325	Base ..		27.390	50	27.328	Base ...		27.390	51	27.325	Base ...		27.395	51.5	27.329
Summit	8 9	23.881	54	23.831	Summit.	8 24	23.878	55	23.826	Summit.	8 39	23.875	56	23.821	Summit	8 54	23.870	57	23.814
Base ...		27.384	48	27.326	Base ...		27.389	50	27.327	Base ...		27.390	51	27.325	Base ..		27.397	51.5	27.331
Summit	8 10	23.881	54	23.831	Summit.	8 25	23.878	55	23.826	Summit.	8 40	23.873	56	23.819	Summit.	8 55	23.876	57	23.820
Base ..		27.384	48	27.326	Base ...		27.388	50	27.326	Base ...		27.389	51	27.324	Base ...		27.394	51.5	27.328
Summit	8 11	23.882	54	23.832	Summit.	8 26	23.875	55	23.823	Summit.	8 41	23.873	56	23.819	Summit.	8 56	23.870	57	23.814
Base ...		27.387	48	27.329	Base ...		27.388	50	27.326	Base ...		27.388	51	27.323	Base ...		27.393	51.5	27.327
Summit	8 12	23.882	55	23.830	Summit.	8 27	23.870	55	23.818	Summit.	8 42	23.870	56	23.816	Summit.	8 57	23.870	57	23.814
Base ..		27.387	48	27.329	Base ..		27.389	50	27.327	Base ...		27.391	51.5	27.325	Base ...		27.392	51.5	27.326
Summit	8 13	23.883	55	23.831	Summit.	8 28	23.875	55	23.823	Summit.	8 43	23.870	56	23.816	Summit.	8 58	23.870	57	23.814
Base ..		27.387	48	27.329	Base ...		27.389	50	27.327	Base ...		27.390	51.5	27.324	Base ...		27.392	51.5	27.326
Summit	8 14	23.883	55	23.831	Summit.	8 29	23.873	56	23.819	Summit.	8 44	23.868	56	23.814	Summit.	8 59	23.870	57	23.814
Base ...		27.389	48.5	27.330	Base ...		27.390	50	27.328	Base ...		27.392	51.5	27.326	Base ...		27.392	51.5	27.326

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

Meteorological record for May 2, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	a. m.					a. m.					a. m.					a. m.			
Summit	8 0	23.813	58	23.755	Summit.	8 15	23.820	65	23.747	Summit	8 30	23.832	67	23.754	Summit.	8 45	23.835	68	23.755
Base...		27.230	58	27.148	Base ...		27.241	59	27.158	Base ...		27.241	59	27.158	Base ...		27.250	60	27.164
Summit	8 1	23.813	58	23.755	Summit	8 16	23.820	65	23.747	Summit.	8 31	23.832	67	23.754	Summit.	8 46	23.835	68	23.755
Base...		27.232	58	27.150	Base ...		27.241	59	27.158	Base ...		27.245	59.5	27.161	Base ...		27.248	60	27.162
Summit	8 2	23.810	58	23.752	Summit.	8 17	23.821	65.5	23.747	Summit.	8 32	23.832	67	23.754	Summit.	8 47	23.835	68	23.755
Base...		27.232	58.5	27.149	Base ...		27.240	59	27.157	Base ...		27.244	59.5	27.160	Base ...		27.249	60	27.163
Summit	8 3	23.810	58.5	23.751	Summit	8 18	23.822	65.5	23.748	Summit	8 33	23.832	67	23.754	Summit.	8 48	23.837	68	23.757
Base...		27.235	58.5	27.153	Base ...		27.240	59	27.157	Base ...		27.243	59.5	27.159	Base ...		27.250	60	27.164
Summit	8 4	23.813	59	23.753	Summit.	8 19	23.822	66	23.747	Summit.	8 34	23.832	67.5	23.753	Summit.	8 49	23.837	68	23.757
Base...		27.238	58.5	27.156	Base ...		27.240	59	27.157	Base ...		27.243	59.5	27.159	Base ...		27.250	60	27.164
Summit	8 5	23.815	60	23.752	Summit	8 20	23.822	66	23.747	Summit.	8 35	23.832	67.5	23.753	Summit.	8 50	23.837	68.5	23.756
Base...		27.238	59	27.155	Base ...		27.241	59	27.158	Base ...		27.241	59.5	27.157	Base ...		27.250	60	27.164
Summit	8 6	23.815	61	23.750	Summit.	8 21	23.823	66	23.748	Summit.	8 36	23.832	67.5	23.753	Summit.	8 51	23.837	68.5	23.756
Base...		27.239	59	27.156	Base ...		27.239	59	27.156	Base ...		27.240	59.5	27.156	Base ...		27.249	60	27.163
Summit	8 7	23.815	62	23.748	Summit.	8 22	23.825	66.5	23.749	Summit.	8 37	23.832	67.5	23.753	Summit.	8 52	23.836	68.5	23.755
Base...		27.230	59	27.156	Base ...		27.239	59	27.156	Base ...		27.242	60	27.156	Base ...		27.248	60	27.162
Summit	8 8	23.815	62.5	23.747	Summit.	8 23	23.825	66.5	23.749	Summit.	8 38	23.832	68	23.752	Summit.	8 53	23.835	68.5	23.754
Base...		27.239	59	27.156	Base ...		27.240	59	27.157	Base ...		27.245	60	27.159	Base ...		27.249	60	27.163
Summit	8 9	23.820	62.5	23.732	Summit.	8 24	23.825	66.5	23.749	Summit.	8 39	23.834	68	23.754	Summit.	8 54	23.835	68.5	23.754
Base...		27.230	59	27.156	Base ...		27.240	59	27.157	Base ...		27.243	60	27.157	Base ...		27.249	60	27.163
Summit	8 10	23.820	63	23.751	Summit.	8 25	23.830	67	23.752	Summit.	8 40	23.834	68	23.754	Summit.	8 55	23.835	68	23.755
Base...		27.239	59	27.156	Base ...		27.242	59	27.159	Base ...		27.245	60	27.159	Base ...		27.251	60	27.165
Summit	8 11	23.820	63.5	23.750	Summit	8 26	23.830	67	23.752	Summit	8 41	23.834	68	23.754	Summit.	8 56	23.835	68	23.755
Base...		27.239	59	27.156	Base ..		27.241	59	27.158	Base ...		27.245	60	27.159	Base ...		27.251	60	27.165
Summit	8 12	23.820	64	23.749	Summit.	8 27	23.830	67	23.752	Summit	8 42	23.834	68	23.754	Summit	8 57	23.835	68	23.755
Base...		27.239	59	27.156	Base ..		27.241	59	27.158	Base ..		27.249	60	27.163	Base ...		27.251	60	27.165
Summit	8 13	23.820	64	23.749	Summit.	8 28	23.830	67	23.752	Summit.	8 43	23.834	68	23.755	Summit.	8 58	23.835	68	23.756
Base...		27.239	59	27.156	Base ...		27.241	59	27.158	Base ...		27.249	60	27.163	Base ...		27.251	60	27.165
Summit	8 14	23.820	64.5	23.748	Summit.	8 29	23.832	67	23.754	Summit.	8 44	23.835	68	23.755	Summit.	8 59	23.835	68	23.755
Base...		27.239	59	27.156	Base ...		27.241	59	27.158	Base ...		27.250	60	27.164	Base ...		27.251	60	27.165

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

Meteorological record for May 3, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	a. m.					*a. m.*					*a. m.*					*a. m.*			
Summit	8 0	23.475	53	23.428	Summit.	8 15	23.479	54	23.430	Summit.	8 30	23.483	54.5	23.433	Summit.	8 45	23.479	54.5	23.429
Base ...		26.910	52.5	26.842	Base ...		26.921	54	26.849	Base ...		26.922	53.5	26.852	Base ...		26.914	53	26.845
Summit	8 1	23.475	53	23.428	Summit.	8 16	23.479	54	23.430	Summit.	8 31	23.483	54.5	23.433	Summit.	8 46	23.479	54.5	23.429
Base ...		26.912	52.5	26.844	Base ...		26.923	54	26.851	Base ...		26.922	53.5	26.852	Base ...		26.914	53	26.845
Summit	8 2	23.478	53	23.431	Summit.	8 17	23.479	54.5	23.429	Summit.	8 32	23.480	54.5	23.430	Summit.	8 47	23.477	55	23.426
Base ...		26.912	53	26.843	Base ...		26.923	54	26.851	Base ...		26.920	54	26.849	Base ...		26.917	53	26.848
Summit	8 3	23.478	53	23.431	Summit.	8 18	23.479	54.5	23.429	Summit	8 33	23.480	54.5	23.430	Summit.	8 48	23.477	55	23.426
Base ...		26.912	53	26.843	Base ...		26.923	54	26.851	Base ...		26.919	54	26.848	Base ...		26.919	53	26.850
Summit	8 4	23.479	53.5	23.432	Summit	8 19	23.480	54.5	23.430	Summit.	8 34	23.480	54.5	23.430	Summit.	8 49	23.477	55	23.426
Base ...		26.914	53.5	26.844	Base ...		26.923	54	26.851	Base ...		26.919	54	26.848	Base ...		26.918	53	26.849
Summit	8 5	23.480	53.5	23.432	Summit.	8 20	23.480	54.5	23.430	Summit.	8 35	23.478	54.5	23.428	Summit.	8 50	23.478	55	23.427
Base ...		26.913	53.5	26.843	Base ...		26.920	54	26.848	Base ...		26.919	53.5	26.850	Base ...		26.918	53	26.849
Summit	8 6	23.479	53.5	23.431	Summit.	8 21	23.480	54.5	23.430	Summit.	8 36	23.479	54.5	23.429	Summit	8 51	23.478	55	23.427
Base ...		26.913	53.5	26.843	Base ...		26.920	54	26.848	Base ...		26.919	53.5	26.850	Base ...		26.919	53	26.850
Summit	8 7	23.479	54	23.430	Summit.	8 22	23.480	54.5	23.430	Summit	8 37	23.480	54.5	23.430	Summit.	8 52	23.478	55	23.427
Base ...		26.911	53.5	26.841	Base ...		26.919	54	26.847	Base ...		26.918	53.5	26.849	Base ...		26.918	53	26.849
Summit	8 8	23.480	54	23.431	Summit.	8 23	23.478	54.5	23.428	Summit.	8 38	23.480	54.5	23.430	Summit	8 53	23.478	55	23.427
Base ...		26.911	53.5	26.841	Base ...		26.919	54	26.847	Base ...		26.918	53.5	26.848	Base ...		26.919	53	26.850
Summit	8 9	23.480	54	23.431	Summit.	8 24	23.481	54.5	23.431	Summit.	8 39	23.480	54.5	23.430	Summit.	8 54	23.478	55	23.427
Base ...		26.918	54	26.846	Base ...		26.918	54	26.846	Base ...		26.919	53.5	26.849	Base ...		26.919	53	26.850
Summit	8 10	23.480	54	23.431	Summit.	8 25	23.483	54.5	23.433	Summit.	8 40	23.480	54.5	23.430	Summit.	8 55	23.478	55	23.427
Base ...		26.919	54	26.847	Base ...		26.918	54	26.846	Base ...		26.917	53	26.847	Base ...		26.915	53	26.846
Summit	8 11	23.480	54	23.431	Summit.	8 26	23.483	54.5	23.433	Summit.	8 41	23.480	54.5	23.430	Summit.	8 56	23.478	55	23.427
Base ...		26.919	54	26.847	Base ...		26.919	54	26.847	Base ...		26.914	53	26.845	Base ...		26.915	53	26.846
Summit	8 12	23.480	54	23.431	Summit.	8 27	23.483	54.5	23.433	Summit.	8 42	23.480	54.5	23.430	Summit.	8 57	23.478	55	23.427
Base ...		26.922	54	26.850	Base ...		26.919	54	26.847	Base ...		26.914	53	26.845	Base ...		26.915	53	26.846
Summit	8 13	23.480	54	23.431	Summit.	8 28	23.483	54.5	23.433	Summit.	8 43	23.479	54.5	23.429	Summit.	8 58	23.480	55.5	23.428
Base ...		26.922	54	26.850	Base ...		26.919	53.5	26.849	Base ...		26.913	53	26.844	Base ...		26.917	53	26.848
Summit	8 14	23.480	54	23.431	Summit.	8 29	23.483	54.5	23.433	Summit.	8 44	23.479	54.5	23.429	Summit.	8 59	23.480	55.5	23.428
Base ...		26.923	54	26.851	Base ...		26.921	53.5	26.851	Base ...		26.913	53	26.844	Base ...		26.917	53	26.848

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

Meteorological record for May 4, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	a. m.					*a. m.*					*a. m.*					*a. m.*			
Summit	8 0	23.523	45.5	23.493	Summit	8 15	23.535	48.5	23.498	Summit	8 30	23.532	51	23.490	Summit	8 45	23.555	53.5	23.508
Base		27.063	46	27.011	Base		27.068	47	27.013	Base		27.070	47.5	27.014	Base		27.071	46.5	27.018
Summit	8 1	23.525	45.5	23.495	Summit	8 16	23.535	49	23.497	Summit	8 31	23.540	51	23.498	Summit	8 46	23.555	54	23.507
Base		27.063	46	27.011	Base		27.068	47	27.013	Base		27.070	47.5	27.014	Base		27.072	46.5	27.019
Summit	8 2	23.528	46	23.497	Summit	8 17	23.534	49	23.496	Summit	8 32	23.540	51	23.498	Summit	8 47	23.558	54	23.509
Base		27.065	46.5	27.012	Base		27.068	47	27.013	Base		27.070	47	27.015	Base		27.072	46.5	27.019
Summit	8 3	23.530	46	23.499	Summit	8 18	23.534	49	23.496	Summit	8 33	23.542	51.5	23.499	Summit	8 48	23.560	54.5	23.510
Base		27.065	46.5	27.012	Base		27.069	47	27.014	Base		27.070	47	27.015	Base		27.071	46.5	27.018
Summit	8 4	23.530	46.5	23.498	Summit	8 19	23.530	49.5	23.491	Summit	8 34	23.540	51.5	23.497	Summit	8 49	23.560	54.5	23.510
Base		27.068	47	27.013	Base		27.069	47	27.014	Base		27.070	47	27.015	Base		27.072	46.5	27.019
Summit	8 5	23.525	46.5	23.493	Summit	8 20	23.530	49.5	23.491	Summit	8 35	23.543	51.5	23.500	Summit	8 50	23.562	55	23.511
Base		27.067	47	27.012	Base		27.069	47	27.014	Base		27.071	47	27.016	Base		27.073	46	27.021
Summit	8 6	23.528	47	23.494	Summit	8 21	23.535	50	23.495	Summit	8 36	23.550	52	23.506	Summit	8 51	23.563	55	23.512
Base		27.067	47	27.012	Base		27.068	47	27.013	Base		27.070	47	27.015	Base		27.073	46	27.021
Summit	8 7	23.528	47	23.494	Summit	8 22	23.538	50	23.498	Summit	8 37	23.550	52	23.506	Summit	8 52	23.563	55	23.512
Base		27.066	47	27.011	Base		27.068	47	27.013	Base		27.071	47	27.016	Base		27.075	46	27.023
Summit	8 8	23.528	47	23.494	Summit	8 23	23.538	50	23.498	Summit	8 38	23.552	52.5	23.507	Summit	8 53	23.565	55	23.514
Base		27.068	47	27.013	Base		27.068	47	27.013	Base		27.071	47	27.016	Base		27.078	46.5	27.025
Summit	8 9	23.525	47	23.491	Summit	8 24	23.538	50	23.498	Summit	8 39	23.550	52.5	23.505	Summit	8 54	23.565	55.5	23.513
Base		27.068	47	27.013	Base		27.067	47	27.012	Base		27.071	47	27.016	Base		27.078	46.5	27.025
Summit	8 10	23.523	47.5	23.488	Summit	8 25	23.540	50.5	23.499	Summit	8 40	23.550	52.5	23.505	Summit	8 55	23.567	55.5	23.515
Base		27.068	47	27.013	Base		27.068	47	27.013	Base		27.071	46.5	27.018	Base		27.080	46.5	27.027
Summit	8 11	23.525	47.5	23.490	Summit	8 26	23.540	50.5	23.499	Summit	8 41	23.550	53	23.504	Summit	8 56	23.568	56	23.515
Base		27.068	47	27.013	Base		27.068	47	27.013	Base		27.072	46.5	27.019	Base		27.081	47	27.026
Summit	8 12	23.530	48	23.494	Summit	8 27	23.530	50.5	23.489	Summit	8 42	23.552	53	23.506	Summit	8 57	23.570	56	23.517
Base		27.068	47	27.013	Base		27.068	47	27.013	Base		27.072	46.5	27.019	Base		27.081	47	27.026
Summit	8 13	23.535	48	23.499	Summit	8 28	23.533	50.5	23.492	Summit	8 43	23.553	53.5	23.506	Summit	8 58	23.570	56.5	23.516
Base		27.069	47	27.014	Base		27.068	47	27.013	Base		27.071	46.5	27.018	Base		27.080	47	27.025
Summit	8 14	23.538	48.5	23.501	Summit	8 29	23.530	51	23.488	Summit	8 44	23.553	53.5	23.506	Summit	8 59	23.570	56.5	23.516
Base		27.069	47	27.014	Base		27.068	47	27.013	Base		27.071	46.5	27.018	Base		27.080	47	27.025

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

Meteorological record for May 5, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	a. m.					*a. m.*					*a. m.*					*a. m.*			
Summit	8 0	23.578	46	23.546	Summit.	8 15	23.592	53.5	23.545	Summit.	8 30	23.595	55	23.543	Summit.	8 45	23.604	60	23.542
Base ...		27.168	58.5	27.086	Base		27.172	59.5	27.087	Base		27.179	59	27.095	Base		27.180	58	27.099
Summit	8 1	23.579	46	23.547	Summit.	8 16	23.592	54	23.544	Summit.	8 31	23.595	56	23.541	Summit.	8 46	21.608	60	23.546
Base ...		27.168	58.5	27.086	Base		27.172	59.5	27.087	Base		27.178	59	27.094	Base		27.180	58	27.099
Summit	8 2	23.578	46.5	23.545	Summit.	8 17	23.592	54	23.544	Summit.	8 32	23.598	56	23.544	Summit.	8 47	23.608	60	23.546
Base ...		27.169	59	27.085	Base		27.172	59.5	27.087	Base		27.179	59	27.095	Base		27.181	58	27.100
Summit	8 3	23.579	47	23.545	Summit.	8 18	23.592	54	23.544	Summit.	8 33	23.601	56	23.547	Summit.	8 48	23.609	60	23.547
Base ...		27.160	59	27.085	Base		27.172	59.5	27.087	Base		27.179	59	27.095	Base		27.181	58	27.100
Summit	8 4	23.579	48	23.543	Summit.	8 19	23.592	54	23.544	Summit.	8 34	23.602	57	23.546	Summit.	8 49	23.604	60.5	23.541
Base ...		27.169	59	27.085	Base		27.175	59.5	27.090	Base		27.179	59	27.095	Base		27.180	57.5	27.100
Summit	8 5	23.580	49	23.542	Summit.	8 20	23.592	54	23.544	Summit.	8 35	23.605	57.5	23.548	Summit.	8 50	23.604	61	23.540
Base ...		27.169	59	27.085	Base		27.178	59.5	27.093	Base		27.179	59	27.095	Base		27.180	57.5	27.100
Summit	8 6	23.581	50	23.541	Summit.	8 21	23.592	54	23.543	Summit.	8 36	23.603	58	23.545	Summit.	8 51	23.605	61	23.541
Base ..		27.173	59	27.089	Base		27.178	59.5	27.093	Base		27.180	59	27.096	Base		27.181	57.5	27.101
Summit	8 7	23.581	50	23.541	Summit.	8 22	23.593	54	23.544	Summit.	8 37	23.605	58	23.547	Summit.	8 52	23.608	61	23.544
Base ...		27.173	59	27.089	Base		27.178	59.5	27.093	Base		27.179	58.5	27.096	Base		27.180	57.5	27.100
Summit	8 8	23.582	50.5	23.541	Summit.	8 23	23.593	54.5	23.543	Summit.	8 38	23.608	58	23.550	Summit.	8 53	23.608	61	23.544
Base ...		27.172	59	27.088	Base		27.178	59.5	27.093	Base		27.180	58.5	27.097	Base		27.180	57.5	27.100
Summit	8 9	23.582	51	23.540	Summit.	8 24	23.596	54.5	23.546	Summit.	8 39	23.608	58.5	23.549	Summit.	8 54	23.608	61	23.544
Base ...		27.172	59	27.088	Base		27.177	59.5	27.092	Base		27.181	58.5	27.098	Base		27.180	57.5	27.100
Summit	8 10	23.585	51.5	23.542	Summit.	8 25	23.596	55	23.544	Summit.	8 40	23.608	59	23.548	Summit.	8 55	23.608	61	23.544
Base ...		27.173	59	27.089	Base		27.178	59.5	27.093	Base		27.179	58	27.098	Base		27.180	57.5	27.100
Summit	8 11	23.585	52	23.541	Summit.	8 26	23.596	55	23.544	Summit.	8 41	23.602	59	23.542	Summit.	8 56	23.605	61	23.541
Base ...		27.173	59	27.089	Base ...		27.176	59.5	27.091	Base		27.179	58	27.098	Base		27.180	57.5	27.100
Summit	8 12	23.589	52	21.545	Summit.	8 27	23.595	55	23.543	Summit.	8 42	23.604	59	23.544	Summit.	8 57	23.605	61	23.541
Base ...		27.173	59	27.089	Base		27.176	59.5	27.091	Base		27.180	58	27.099	Base		27.181	57.5	27.101
Summit	8 13	23.589	52.5	23.544	Summit.	8 28	23.595	55	21.543	Summit.	8 43	23.604	59	23.544	Summit.	8 58	23.605	61.5	23.540
Base ...		27.172	59	27.088	Base		27.176	59	27.092	Base		27.180	58	27.099	Base		27.179	57.5	27.099
Summit	8 14	23.590	53	23.544	Summit.	8 29	23.595	55	23.543	Summit.	8 44	23.604	60	23.542	Summit.	8 59	23.606	62	23.540
Base ...		27.173	59.5	27.088	Base		27.179	59	27.095	Base		27.180	58	27.099	Base		27.179	57.5	27.099

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings erected for temperature and instrumental error only.

Meteorological record for May 6, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	a. m.					a. m.					a. m.					a. m.			
Summit	8 0	23.870	44	23.842	Summit	8 15	23.885	51	23.842	Summit.	8 30	23.896	53	23.849	Summit.	8 45	23.900	56	23.846
Base ...		27.513	50	27.450	Base		27.517	51	27.452	Base		27.520	51	27.455	Base		27.522	51.5	27.456
Summit	8 1	23.870	44.5	23.841	Summit.	8 16	23.880	51	23.837	Summit	8 31	23.900	53	23.853	Summit.	8 46	23.910	56	23.856
Base ...		27.513	50	27.450	Base		27.518	21	27.453	Base		27.520	51	27.455	Base		27.522	51.5.	27.456
Summit	8 2	23.870	45	23.840	Summit.	8 17	23.883	51	23.840	Summit.	8 32	23.900	53.5	23.852	Summit.	8 47	23.905	56	23.851
Base ...		27.511	50	27.448	Base		27.517	50.5	27.453	Base		27.521	51	27.456	Base		27.523	51.5	27.457
Summit	8 3	23.875	46	23.842	Summit	8 18	23.882	51	23.839	Summit.	8 33	23.898	53.5	23.849	Summit.	8 48	23.910	56	23.856
Base ...		27.511	50	27.448	Base		27.518	51	27.453	Base		27.521	51	27.456	Base		27.522	51.5	27.456
Summit	8 4	23.875	46.5	23.841	Summit.	8 19	23.883	51.5	23.839	Summit.	8 34	23.915	54	23.865	Summit.	8 49	23.910	56	23.856
Base ...		27.512	50	27.449	Base		27.520	51	27.455	Base		27.521	51	27.456	Base		27.522	51.5	27.456
Summit	8 5	23.875	47	23.840	Summit.	8 20	23.885	51.5	23.841	Summit.	8 35	23.900	54	23.850	Summit.	8 50	23.905	56	23.851
Base ...		27.512	50	27.449	Base		27.518	51	27.453	Base		27.521	51	27.456	Base		27.522	51.5	27.456
Summit	8 6	23.868	48	23.831	Summit	8 21	23.890	51	23.847	Summit.	8 36	23.900	54.5	23.849	Summit.	8 51	23.910	56	23.856
Base ...		27.513	50	27.450	Base		27.519	51	27.454	Base		27.523	51	27.458	Base		27.523	52	27.456
Summit	8 7	23.868	48	23.831	Summit.	8 22	23.900	51.5	23.856	Summit.	8 37	23.910	54.5	23.659	Summit.	8 52	23.910	56	23.856
Base ...		27.515	50.5	27.451	Base		27.520	51	27.455	Base		27.523	51	27.458	Base		27.523	52	27.456
Summit	8 8	23.870	48.5	23.832	Summit.	8 23	23.900	51.5	23.856	Summit.	8 38	23.905	54.5	23.854	Summit.	8 53	23.910	56	23.856
Base ...		27.515	50.5	27.451	Base		27.519	51	27.454	Base		27.525	51.5	27.459	Base		27.522	52	27.455
Summit	8 9	23.872	49	23.833	Summit.	8 24	23.903	52	23.858	Summit.	8 39	23.900	55	23.848	Summit.	8 54	23.913	56.5	23.858
Base ...		27.516	50.5	27.452	Base		27.519	51	27.454	Base ...		27.523	51.5	27.457	Base		27.524	52	27.457
Summit	8 10	23.875	49	23.836	Summit.	8 25	23.888	52	23.843	Summit.	8 40	23.900	55	23.848	Summit.	8 55	23.920	56.5	23.865
Base ...		27.516	50.5	27.452	Base		27.521	51	27.456	Base		27.523	51.5	27.457	Base		27.522	52	27.455
Summit	8 11	23.875	49.5	23.835	Summit	8 26	23.888	52	23.843	Summit.	8 41	23.895	55.5	23.842	Summit.	8 56	23.913	56.5	23.858
Base ...		27.517	51	27.452	Base		27.520	51	27.455	Base		27.523	51.5	27.457	Base		27.523	52	27.456
Summit	8 12	23.878	50	23.837	Summit.	8 27	23.893	52	23.848	Summit.	8 42	23.900	55.5	23.847	Summit.	8 57	23.915	57	23.859
Base ...		27.515	51	27.450	Base		27.520	51	27.455	Base ...		27.522	51.5	27.456	Base		27.524	52	27.457
Summit	8 13	23.875	50	23.834	Summit.	8 28	23.892	52.5	23.846	Summit	8 43	23.900	55.5	23.847	Summit.	8 58	23.910	57	23.854
Base ...		27.515	51	27.450	Base		27.521	51	27.456	Base		27.521	51.5	27.455	Base		27.526	52	27.459
Summit	8 14	23.883	50.5	23.841	Summit.	8 29	23.890	53	23.843	Summit.	8 44	23.900	56	23.846	Summit.	8 59	23.910	57	23.854
Base ...		27.517	51	27.452	Base		27.520	51	27.455	Base		27.521	51.5	27.455	Base		27.523	52	27.456

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	a. m.					a. m.					a. m.					a. m.			
Summit	8 0	24.063	49	24.024	Summit.	8 15	24.074	48	24.037	Summit.	8 30	24.075	50	24.034	Summit.	8 45	24.084	51.5	24.040
Base ...		27.618	60	27.531	Base		27.622	60	27.535	Base		27.618	59	27.533	Base		27.620	60	27.533
Summit	8 1	24.068	49	24.029	Summit	8 16	24.074	48	24.037	Summit.	8 31	24.075	50	24.034	Summit.	8 46	24.084	52	24.039
Base ...		27.618	60	27.531	Base		27.621	60	27.534	Base		27.619	59	27.534	Base		27.622	60	27.535
Summit	8 2	24.068	49.5	24.028	Summit.	8 17	24.075	48.5	24.037	Summit.	8 32	24.078	50.5	24.036	Summit.	8 47	24.084	52	24.039
Base ...		27.618	60	27.531	Base		27.622	60	27.535	Base		27.619	59	27.534	Base		27.622	60.5	27.534
Summit	8 3	24.069	50	24.028	Summit.	8 18	24.075	49	24.036	Summit.	8 33	24.070	50.5	24.037	Summit.	8 48	24.084	52	24.039
Base ...		27.618	60	27.531	Base		27.622	59.5	27.536	Base ...:		27.619	59	27.534	Base		27.622	60.5	27.534
Summit	8 4	24.069	50	24.028	Summit.	8 19	24.075	49	24.036	Summit.	8 34	24.079	51	24.036	Summit.	8 49	24.084	52	24.039
Base ..		27.619	60	27.532	Base		27.623	59	27.538	Base		27.617	59	27.532	Base		27.623	60.5	27.535
Summit	8 5	24.069	50	24.028	Summit.	8 20	24.075	49	24.036	Summit.	8 35	24.075	51	24.032	Summit.	8 50	24.081	52	24.036
Base ..		27.618	60	27.531	Base		27.622	59	27.537	Base		27.618	59	27.533	Base		27.623	60.5	27.535
Summit	8 6	24.070	50	24.029	Summit.	8 21	24.075	49.5	24.035	Summit.	8 36	24.078	51	24.035	Summit.	8 51	24.081	52.5	24.035
Base ...		27.619	60	27.532	Base		27.622	59	27.537	Base		27.618	59.5	27.532	Base		27.625	60.5	27.537
Summit	8 7	24.070	50	24.029	Summit.	8 22	24.075	49.5	24.035	Summit.	8 37	24.078	51	24.035	Summit.	8 52	24.081	52.5	24.035
Base ...		27.619	60	27.532	Base		27.621	59	27.536	Base ...		27.617	59.5	27.531	Base		27.525	60.5	27.537
Summit	8 8	24.070	50	24.029	Summit.	8 23	24.075	50	24.034	Summit.	8 38	24.078	51	24.035	Summit.	8 53	24.081	53	24.034
Base ...		27.619	60	27.532	Base		27.623	59	57.538	Base		27.617	59.5	27.531	Base		27.627	60.5	27.539
Summit	8 9	24.069	49.5	24.029	Summit.	8 24	24.075	50	24.034	Summit.	8 39	24.078	51	24.035	Summit.	8 54	24.084	53	24.037
Base ...		27.619	60	27.532	Base		27.621	59	27.536	Base		27.618	60	27.531	Base		27.624	60.5	27.536
Summit	8 10	24.070	49	24.031	Summit.	8 25	24.075	50	24.034	Summit	8 40	24.078	51	24.035	Summit.	8 55	24.084	53	24.037
Base ...		27.619	60	27.532	Base		27.619	59	27.534	Base		27.618	60	27.531	Base		27.623	60.5	27.535
Summit	8 11	24.070	48	24.033	Summit.	8 26	24.075	50	24.034	Summit	8 41	24.079	51.5	24.035	Summit.	8 56	24.084	53	24.037
Base ...		27.621	60	27.534	Base		27.619	59	27.534	Base		27.618	60	27.531	Base		27.622	60.5	27.534
Summit	8 12	24.070	48	24.033	Summit.	8 27	24.075	50	24.034	Summit.	8 42	24.079	51.5	24.035	Summit.	8 57	24.084	53	24.037
Base ...		27.621	60	27.534	Base		27.619	59	27.534	Base		27.619	60	27.532	Base		27.621	60.5	27.533
Summit	8 13	24.074	48	24.037	Summit.	8 28	24.075	50	24.034	Summit.	8 43	24.079	51.5	24.035	Summit.	8 58	24.085	53	24.038
Base ...		27.621	60	27.534	Base		27.619	59	27.534	Base		27.619	60	27.532	Base		27.620	60.5	27.532
Summit	8 14	24.074	48	24.037	Summit.	8 29	24.075	50	24.034	Summit.	8 44	24.079	51.5	24.035	Summit.	8 59	24.085	53.5	24.037
Base ...		27.622	60	27.535	Base		27.619	59	27.534	Base		27.619	60	27.532	Base		27.620	60.5	27.532

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

Meteorological record for May 8, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	a. m.					*a. m.*					*a. m*					*a. m*			
Summit	8 0	24.162	59	24.102	Summit.	8 15	24.162	62	24.095	Summit.	8 30	24.165	64	24.094	Summit.	8 45	24.171	64.5	24.099
Base ..		27.625	58	27.542	Base....		27.630	58.5	27.546	Base....		27.627	59	27.542	Base....		27.632	60	27.545
Summit	8 1	24.162	59	24.102	Summit.	8 16	24.162	62.5	24.094	Summit.	8 31	24,165	64	24.094	Summit.	8 46	24.171	64.5	24.099
Base ..		27.625	58.5	27.541	Base....		27.630	58.5	27.546	Base....		27.625	59	27.540	Base....		27.632	60.5	27.544
Summit	8 2	24.160	59	24.100	Summit.	8 17	24.165	63	24.096	Summit	8 32	24.165	64	24.094	Summit.	8 47	24.171	64.5	24.099
Base...		27.625	58	27.542	Base....		27.630	58	27.547	Base....		27.628	59	27.543	Base....		27.631	60.5	27.543
Summit	8 3	24.160	59.5	24.099	Summit.	8 18	24.165	63	24.096	Summit.	8 33	24.165	64	24.094	Summit.	8 48	24.171	64.5	24.099
Base...		27.627	58	27.544	Base....		27.630	58.5	27.546	Base....		27.628	59.5	27.542	Base....		27.632	61	27.543
Summit	8 4	24.160	60	24.098	Summit	8 19	24.165	63	24.096	Summit.	8 34	24.165	64	24.094	Summit.	8 49	24.171	64.5	24.090
Base ..		27.627	59	27.542	Base....		27.631	58.5	27.547	Base....		27.628	60	27.541	Base....		27.633	61	27.544
Summit	8 5	24.160	60	24.098	Summit.	8 20	24.165	63	24.096	Summit.	8 35	24.168	64.5	24.096	Summit.	8 50	24.171	64.5	24.099
Base ..		27.628	58	27.545	Base....		27.630	58.5	27.546	Base....		27.628	60	27.541	Base....		27.633	61	27.544
Summit	8 6	24.160	60	24.098	Summit.	8 21	24.165	63.5	24.095	Summit.	8 36	24.168	64.5	24.096	Summit.	8 51	24.171	64.5	24.099
Base...		27.628	58	27.545	Base....		27.630	58	27.547	Base....		27.629	60	27.542	Base....		27.631	61	27.542
Summit	8 7	24.160	60	24.098	Summit.	8 22	24.165	64	24.094	Summit.	8 37	24.168	64.5	24.096	Summit.	8 52	24.171	64.5	24.099
Base ..		27.628	58	27.545	Base....		27.630	58	27.547	Base....		27.628	60	27.541	Base....		27.633	61	27.544
Summit	8 8	24.162	60.5	24.099	Summit.	8 23	24.165	64	24.094	Summit.	8 38	24.168	64.5	24.096	Summit.	8 53	24.171	64.5	24.099
Base...		27.628	58	27.545	Base....		27.630	58.5	27.546	Base....		27.629	60	27.542	Base....		27.632	61	27.543
Summit	8 9	24.162	61	24.098	Summit.	8 24	24.165	64	24.094	Summit.	8 39	24.168	64.5	24.096	Summit.	8 54	24.171	64.5	24.099
Base...		27.628	58.5	27.544	Base....		27.630	58.5	27.546	Base....		27.628	60	27.541	Base....		27.632	61	27.543
Summit	8 10	24.162	61.5	24.097	Summit.	8 25	24.165	64	24.094	Summit.	8 40	24.168	64.5	24.096	Summit.	8 55	24.171	64.5	24.099
Base ..		27.628	58.5	27.544	Base....		27.629	58	27.546	Base....		27.630	60	27.543	Base....		27.632	61	27.543
Summit	8 11	24.163	61.5	24.097	Summit.	8 26	24.165	64	24.094	Summit.	8 41	24.168	64.5	24.096	Summit.	8 56	24.169	63	24.100
Base...		27.630	58	27.547	Base....		27.629	58	27.546	Base...		27.630	60.5	27.542	Base....		27.633	61	27.544
Summit	8 12	24.162	61.5	24.097	Summit.	8 27	24.165	64	24.094	Summit.	8 42	24.168	64.5	24.096	Summit.	8 57	24.170	63	24.101
Base ..		27.630	58	27.547	Base ...		27.629	58.5	27.545	Base....		27.630	60.5	27.542	Base....		27.633	61	27.544
Summit	8 13	24.162	62	24.095	Summit.	8 28	24.165	64	24.094	Summit	8 43	24.168	64.5	24.096	Summit.	8 58	24.170	63	24.101
Base ..		27.630	58	27.547	Base....		27.626	58.5	27.542	Base ...		27.631	60.5	27.543	Base....		27.633	61	27.544
Summit	8 14	24.162	62	24.095	Summit.	8 29	24.165	64	24.094	Summit.	8 44	24.168	64.5	24.096	Summit.	8 59	24.170	61	24.105
Base...		27.630	58	27.547	Base....		27.629	59	27.544	Base....		27.629	60	27.542	Base....		27.633	61	27.544

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

Meteorological record for May 9, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	a. m.					*a. m.*					*a. m.*					*a. m.*			
Summit	8 0	24.005	57	23.949	Summit.	8 15	23.990	52	23.945	Summit.	8 30	23.990	55	23.938	Summit.	8 45	24.000	61	23.935
Base...		27.488	55	27.413	Base....		27.489	56	27.412	Base....		27.490	56	27.413	Base....		27.489	55.5	27.413
Summit	8 1	24.005	57	23.949	Summit.	8 16	23.990	52	23.945	Summit.	8 31	23.990	56	23.936	Summit.	8 46	24.000	61.5	23.934
Base...		27.487	55	27.412	Base....		27.488	56	27.411	Base....		27.488	55.5	27.412	Base....		27.490	55.5	27.414
Summit	8 2	24.005	56.5	23.949	Summit.	8 17	23.990	52	23.945	Summit.	8 32	23.990	56	23.936	Summit.	8 47	24.000	61.5	23.934
Base...		27.487	55	27.412	Base....		27.488	56.5	27.410	Base....		27.489	55.5	27.413	Base....		27.489	55.5	27.413
Summit	8 3	24.000	56	23.946	Summit.	8 18	23.900	52	23.945	Summit.	8 33	23.992	56.5	23.937	Summit.	8 48	24.000	61.5	23.934
Base...		27.486	55.5	27.410	Base....		27.489	56	27.412	Base....		27.489	56	27.412	Base....		27.488	55.5	27.412
Summit	8 4	24 000	56	23.946	Summit.	8 19	23.990	51.5	23.946	Summit.	8 34	23.992	57	23.936	Summit.	8 49	24.002	61.5	23.936
Base...		27.489	55.5	27.413	Base....		27.489	56	27.412	Base....		27.487	56	27.410	Base....		27.488	55	27.414
Summit	8 5	24.000	55.5	23.947	Summit.	8 20	23.990	51.5	23.946	Summit.	8 35	23.992	57.5	23.935	Summit.	8 50	24.003	61	23.938
Base...		27.489	55.5	27.413	Base....		27.489	56	27.412	Base....		27.488	56	27.411	Base....		27.488	55	27.414
Summit	8 6	24.000	55	23.948	Summit.	8 21	23.992	51	23.949	Summit.	8 36	23.992	58	23.934	Summit.	8 51	24.005	61	23.940
Base...		27.488	55.5	27.412	Base....		27.488	56	27.411	Base....		27.488	56	27.411	Base....		27.487	55	27.413
Summit	8 7	24.000	54.5	23.949	Summit.	8 22	23.992	51	23.949	Summit.	8 37	23.993	58.5	23.934	Summit.	8 52	24.002	60.5	23.938
Base...		27.488	55.5	27.412	Base....		27.489	56	27.412	Base....		27.484	56	27.407	Base....		27.488	55	27.414
Summit	8 8	24.000	54	23.950	Summit.	8 23	23.990	51	23.947	Summit.	8 38	23.995	59	23.935	Summit.	8 53	24.002	60	23.939
Base...		27.485	55.5	27.409	Base....		27.489	56	27.412	Base....		27.485	56	27.408	Base....		27.485	55	27.411
Summit	8 9	23.990	53	23.942	Summit	8 24	23.992	51	23.949	Summit.	8 39	23.995	59.5	23.934	Summit.	8 54	24.002	60	23.939
Base...		27.485	55.5	27.409	Base....		27.489	56	27.412	Base....		27.485	56	27.408	Base....		27.484	55	27.410
Summit	8 10	23.990	53	23.942	Summit.	8 25	23.992	52	23.947	Summit.	8 40	23.995	59.5	23.934	Summit.	8 55	24.002	60	23.939
Base...		27.485	56	27.408	Base....		27.490	56	27.413	Base ...		27.487	56	27.410	Base....		27.490	55	27.416
Summit	8 11	23.990	53	23.942	Summit.	8 26	23.992	53	23.944	Summit.	8 41	24.000	60	23.937	Summit.	8 56	24.002	60	23.939
Base...		27.488	56	27.411	Base....		27.490	56	27.413	Base....		27.490	56	27.413	Base....		27.488	55	27.414
Summit	8 12	23.990	52.5	23.943	Summit.	8 27	23.990	53	23.942	Summit.	8 42	24.000	60.5	23.936	Summit.	8 57	24.002	60	23.939
Base...		27.488	56	27.411	Base....		27.489	56	27.412	Base....		27.489	56	27.412	Base. ..		27.488	55.5	27.412
Summit	8 13	23.990	52.5	23.943	Summit.	8 28	23.990	54	23.940	Summit.	8 43	24.000	61	23.935	Summit.	8 58	24.002	60	23.939
Base...		27.488	56	27.411	Base....		27.490	56	27.413	Base...		27.490	36	27.413	Base....		27.489	55.5	27.413
Summit	8 14	23.990	52.5	23.943	Summit	8 29	23.990	54.5	23.939	Summit.	8 44	24.000	61	23.935	Summit.	8 59	24.002	60	23.939
Base...		27.489	56	27.412	Base....		27.490	56	27.413	Base....		27.489	55.5	27.413	Base....		27.488	55.5	27.412

NOTE.—Elevation of barometer at summit above sea-level, 6,225.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

Meteorological record for May 10, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	a. m.					*a. m.*					*a. m.*					*a. m.*			
Summit	8 0	23.842	57	23.786	Summit.	8 15	23.848	59.5	23.787	Summit.	8 30	23.850	59	23.790	Summit.	8 45	23.844	57.5	23.786
Base ..		27.302	57.5	27.221	Base		27.310	58	27.227	Base		27.313	58	27.230	Base ...		27.308	58	27.225
Summit	8 1	23.840	57	23.784	Summit.	8 16	23.854	59.5	23.793	Summit.	8 31	23.855	59	23.795	Summit.	8 46	23.844	57.5	23.786
Base ...		27.302	57.5	27.221	Base		27.315	58	27.232	Base		27.310	58	27.227	Base		27.301	58	27.218
Summit	8 2	23.840	58	23.782	Summit.	8 17	23.850	59	23.790	Summit.	8 32	23.850	59	23.790	Summit.	8 47	23.844	57.5	23.786
Base ..		27.300	58	27.217	Base		27.312	58	27.229	Base		27.310	58	27.227	Base		27.313	58	27.230
Summit	8 3	23.840	59	23.780	Summit.	8 18	23.850	59	23.790	Summit.	8 33	23.850	59	23.790	Summit.	8 48	23.844	57.5	23.786
Base ..		27.301	58	27.218	Base		27.310	58	27.227	Base		27.302	58	27.219	Base		27.307	58	27.224
Summit	8 4	23.840	59	23.780	Summit	8 19	23.855	58.5	23.796	Summit.	8 34	23.850	59	23.790	Summit.	8 49	23.844	57.5	23.786
Base ..		27.303	58	27.220	Base		27.322	58	27.239	Base		27.306	58	27.223	Base		27.319	57.5	27.237
Summit	8 5	23.840	59.5	23.779	Summit.	8 20	23.852	58	23.794	Summit.	8 35	23.850	59	23.790	Summit.	8 50	23.848	57.5	23.790
Base .		27.300	58	27.217	Base		27.308	58	27.225	Base		27.306	58	27.223	Base		27.309	57.5	27.227
Summit	8 6	23.840	59.5	23.779	Summit.	8 21	23.856	58	23.798	Summit.	8 36	23.845	58.5	23.786	Summit.	8 51	23.839	57.5	23.781
Base ..		27.299	58	27.216	Base		27.320	58	27.237	Base		27.302	58	27.219	Base		27.314	57.5	27.232
Summit	8 7	23.840	59.5	23.779	Summit	8 22	23.856	58	23.798	Summit.	8 37	23.845	58	23.786	Summit	8 52	23.841	57.5	23.783
Base ..		27.307	58	27.224	Base		27.320	58	27.237	Base		27.309	58	27.226	Base		27.323	57.5	27.241
Summit	8 8	23.845	59.5	23.784	Summit	8 23	23.859	58	23.801	Summit.	8 38	23.846	58	23.787	Summit.	8 53	23.841	67	23.784
Base ...		27.303	58	27.220	Base		27.314	58	27.231	Base		27.307	58	27.224	Base		27.309	57.5	27.227
Summit	8 9	23.845	59.5	23.784	Summit.	8 24	23.859	58	23.801	Summit.	8 39	23.846	58	23.787	Summit.	8 54	23.845	57	23.789
Base ..		27.303	58	27.220	Base		27.319	58	27.236	Base		27.309	58	27.226	Base		27.302	57.5	27.220
Summit	8 10	23.845	59.5	23.784	Summit.	8 25	23.854	58.5	23.795	Summit.	8 40	23.841	58	23.782	Summit.	8 55	23.846	56.5	23.790
Base ..		27.297	58	27.214	Base		27.318	58	27.235	Base		27.318	58	27.235	Base		27.319	57.5	27.237
Summit	8 11	23.845	59.5	23.784	Summit	8 26	23.850	58.5	23.791	Summit.	8 41	23.844	57.5	23.786	Summit.	8 56	23.846	56	23.791
Base ..		27.306	58	27.223	Base		27.300	58	27.217	Base		27.312	58	27.229	Base		27.310	57.5	27.228
Summit	8 12	23.848	59.5	23.787	Summit.	8 27	23.852	59	23.792	Summit	8 42	23.840	57.5	23.782	Summit	8 57	23.846	56	23.791
Base ..		27.308	58	27.225	Base		27.312	58	27.229	Base		27.305	58	27.222	Base		27.308	57.5	27.226
Summit	8 13	23.848	59.5	23.787	Summit.	8 22	23.852	59	23.792	Summit.	8 43	23.846	57.5	23.788	Summit.	8 56	23.846	56	23.791
Base ..		27.299	58	27.216	Base		27.318	58	27.235	Base		27.302	58	27.219	Base		27.300	57.5	27.218
Summit	8 14	23.848	59.5	23.787	Summit.	8 29	23.850	59	23.790	Summit.	8 44	23.844	57.5	23.786	Summit.	8 59	23.846	56	23.791
Base ...		27.311	58	27.228	Base		27.310	58	27.227	Base		27.307	58	27.224	Base .. .		27.313	58	27.230

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

Meteorological record for May 11, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Summit	2 0	23.755	65	23.682	Summit.	2 15	23.760	71	23.673	Summit.	2 30	23.762	73	23.672	Summit.	2 45	23.760	70	23.676
Base ...		27.150	65	27.052	Base		27.144	65	27.046	Base		27.149	63.5	27.054	Base		27.130	62.5	27.038
Summit	2 1	23.755	65.5	23.681	Summit	2 16	23.760	71	23.673	Summit.	2 31	23.762	73	23.672	Summit.	2 46	23.752	69	23.670
Base ...		......	......	......	Base		27.146	65	27.048	Base		27.143	63.5	27.048	Base		27.129	62.5	27.037
Summit	2 2	23.755	66	23.680	Summit.	2 17	23.760	71.5	23.672	Summit.	2 32	23.768	73	23.678	Summit.	2 47	23.745	68	23.665
Base ...		......	......	......	Base		27.148	65	27.050	Base		27.136	63.5	27.041	Base		27.131	62.5	27.039
Summit	2 3	23.755	66.5	23.679	Summit.	2 18	23.763	71.5	23.675	Summit.	2 33	23.775	73	23.685	Summit.	2 48	23.740	68	23.660
Base ...		......	......	......	Base		27.144	64.5	27.047	Base		27.133	63.5	27.038	Base		27.132	62.5	27.040
Summit	2 4	23.753	66.5	23.677	Summit	2 19	23.763	72	23.674	Summit.	2 34	23.780	73	23.690	Summit.	2 49	23.738	67.5	23.659
Base ...		......	......	......	Base		27.142	64	27.046	Base		27.133	63.5	27.038	Base		27.132	62.5	27.040
Summit	2 5	23.755	67	23.678	Summit.	2 20	23.765	72	23.676	Summit.	2 35	23.782	73	23.692	Summit.	2 50	23.730	67	23.652
Base ...		27.152	65	27.054	Base		27.140	64	27.044	Base		27.134	63	27.041	Base		27.133	62.5	27.041
Summit	2 6	23.758	68	23.678	Summit	2 21	23.768	72	23.679	Summit.	2 36	23.780	73	23.690	Summit.	2 51	23.720	66.5	23.643
Base ..		27.152	65	27.054	Base		27.138	64	27.042	Base		27.133	63	27.040	Base		27.137	62.5	27.045
Summit	2 7	23.755	68	23.675	Summit.	2 22	23.762	72	23.673	Summit	2 37	23.772	73	23.682	Summit.	2 52	23.720	65.5	23.645
Base ...		27.148	65	27.050	Base		27.140	64	27.044	Base ...		27.131	63	27.038	Base		27.139	62.5	27.047
Summit	2 8	23.755	69	23.673	Summit.	2 23	23.763	72	23.674	Summit.	2 38	23.778	73	23.688	Summit.	2 53	23.720	65	23.646
Base ..		27.148	65	27.050	Base		27.138	64	27.042	Base		27.129	63	27.036	Base		27.134	62.5	27.042
Summit	2 9	23.760	69.5	23.677	Summit	2 24	23.763	72.5	23.673	Summit	2 39	23.770	73.5	23.679	Summit.	2 54	23.715	64	23.643
Base ...		27.151	65	27.053	Base		27.140	64	27.044	Base ...		27.132	63	27.039	Base		27.132	62.5	27.040
Summit	2 10	23.760	69.5	23.676	Summit.	2 25	23.760	72.5	23.670	Summit.	2 40	23.770	73.5	23.679	Summit.	2 55	23.710	63	23.640
Base ..		27.147	65	27.049	Base		27.140	64	27.044	Base		27.131	63	27.038	Base		27.130	62.5	22.038
Summit	2 11	23.758	70	23.673	Summit	2 26	23.760	73	23.670	Summit	2 41	23.765	73	23.675	Summit.	2 56	23.700	63.5	23.630
Base ...		27.149	65	27.051	Base		27.142	64	27.046	Base		27.130	62.5	27.038	Base		27.124	62.5	77.032
Summit	2 12	23.758	70	23.673	Summit	2 27	23.760	73	23.670	Summit.	2 42	23.760	72	23.672	Summit.	2 57	23.700	64	23.629
Base ..		27.149	65	27.051	Base		27.142	64	27.046	Base		27.132	62.5	27.040	Base		27.121	62.5	27.029
Summit	2 13	23.760	70.5	23.674	Summit.	2 28	23.760	73	23.670	Summit.	2 43	23.752	71	23.660	Summit.	2 58	23.705	64	23.634
Base ...		27.147	65	27.049	Base		27.144	63.5	27.049	Base ...		27.136	62.5	27.044	Base ...		27.115	62.5	27.023
Summit	2 14	23.760	71	23.673	Summit	2 29	23.760	73	23.670	Summit	2 44	23.752	70	23.668	Summit.	2 59	23.705	64	23.634
Base ...		27.144	65	27.046	Base		27.150	63.5	27.055	Base		27.134	62.5	27.042	Base		27.110	62.5	27.018

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

Meteorological record for ***May*** *10, 1873.*

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	a. m.					*a. m.*					*a. m.*					*a. m.*			
Summit	8 0	23.842	57	23.780	Summit	8 15	23.848	59.5	23.787	Summit	8 30	23.850	59	23.790	Summit	8 45	23.844	57.5	23.786
Base		27.302	57.5	27.221	Base		27.310	58	27.227	Base		27.313	58	27.230	Base		27.308	58	27.225
Summit	8 1	23.840	57	23.784	Summit	8 16	23.854	59.5	23.793	Summit	8 31	23.855	59	23.795	Summit	8 46	23.844	57.5	23.786
Base		27.302	57.5	27.221	Base		27.315	58	27.232	Base		27.310	58	27.227	Base		27.301	58	27.218
Summit	8 2	23.840	58	23.782	Summit	8 17	23.850	59	23.790	Summit	8 32	23.850	59	23.790	Summit	8 47	23.844	57.5	23.786
Base		27.300	58	27.217	Base		27.312	58	27.229	Base		27.310	58	27.227	Base		27.313	58	27.230
Summit	8 3	23.840	59	23.780	Summit	8 18	23.850	59	23.790	Summit	8 33	23.850	59	23.790	Summit	8 48	23.844	57.5	23.786
Base		27.301	58	27.218	Base		27.310	58	27.227	Base		27.302	58	27.219	Base		27.307	58	27.224
Summit	8 4	23.840	59	23.780	Summit	8 19	23.855	58.5	23.796	Summit	8 34	23.850	59	23.790	Summit	8 49	23.844	57.5	23.786
Base		27.303	58	27.220	Base		27.322	58	27.239	Base		27.306	58	27.223	Base		27.319	57.5	27.237
Summit	8 5	23.840	59.5	23.779	Summit	8 20	23.852	58	23.794	Summit	8 35	23.850	59	23.790	Summit	8 50	23.848	57.5	23.790
Base		27.300	58	27.217	Base		27.308	58	27.225	Base		27.306	58	27.223	Base		27.309	57.5	27.227
Summit	8 6	23.840	59.5	23.779	Summit	8 21	23.856	58	23.798	Summit	8 36	23.845	58.5	23.786	Summit	8 51	23.839	57.5	23.781
Base		27.299	58	27.216	Base		27.320	58	27.237	Base		27.302	58	27.219	Base		27.314	57.5	27.232
Summit	8 7	23.840	59.5	23.779	Summit	8 22	23.856	58	23.798	Summit	8 37	23.845	58	23.786	Summit	8 52	23.841	57.5	23.783
Base		27.307	58	27.224	Base		27.320	58	27.237	Base		27.309	58	27.226	Base		27.323	57.5	27.241
Summit	8 8	23.845	59.5	23.784	Summit	8 23	23.859	58	23.801	Summit	8 38	23.846	58	23.787	Summit	8 53	23.841	67	23.784
Base		27.303	58	27.220	Base		27.314	58	27.231	Base		27.307	58	27.224	Base		27.309	57.5	27.227
Summit	8 9	23.845	59.5	23.784	Summit	8 24	23.859	58	23.801	Summit	8 39	23.846	58	23.787	Summit	8 54	23.845	57	23.789
Base		27.303	58	27.220	Base		27.319	58	27.236	Base		27.309	58	27.226	Base		27.302	57.5	27.220
Summit	8 10	23.845	59.5	23.784	Summit	8 25	23.854	58.5	23.795	Summit	8 40	23.841	58	23.782	Summit	8 55	23.846	56.5	23.790
Base		27.297	58	27.214	Base		27.318	58	27.235	Base		27.318	58	27.235	Base		27.319	57.5	27.237
Summit	8 11	23.845	59.5	23.784	Summit	8 26	23.850	58.5	23.791	Summit	8 41	23.844	57.5	23.786	Summit	8 56	23.846	56	23.791
Base		27.306	58	27.223	Base		27.300	58	27.217	Base		27.312	58	27.229	Base		27.310	57.5	27.228
Summit	8 12	23.848	59.5	23.787	Summit	8 27	23.852	59	23.792	Summit	8 42	23.840	57.5	23.782	Summit	8 57	23.846	56	23.791
Base		27.308	58	27.225	Base		27.312	58	27.229	Base		27.305	58	27.222	Base		27.308	57.5	27.226
Summit	8 13	23.848	59.5	23.787	Summit	8 22	23.852	59	23.792	Summit	8 43	23.846	57.5	23.788	Summit	8 56	23.846	56	23.791
Base		27.299	58	27.216	Base		27.318	58	27.235	Base		27.302	58	27.219	Base		27.300	57.5	27.218
Summit	8 14	23.848	59.5	23.787	Summit	8 29	23.850	59	23.790	Summit	8 44	23.844	57.5	23.786	Summit	8 59	23.846	56	23.791
Base		27.311	58	27.228	Base		27.310	58	27.227	Base		27.307	58	27.224	Base		27.313	58	27.230

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

Meteorological record for May 11, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Summit	2 0	23.755	65	23.682	Summit.	2 15	23.760	71	23.673	Summit.	2 30	23.762	73	23.672	Summit.	2 45	23.760	70	23.676
Base...		27.150	65	27.052	Base....		27.144	65	27.046	Base....		27.149	63.5	27.054	Base....		27.130	62.5	27.038
Summit	2 1	23.755	65.5	23.681	Summit	2 16	23.760	71	23.673	Summit.	2 31	23.762	73	23.672	Summit.	2 46	23.752	69	23.670
Base...		......	......	......	Base....		27.146	65	27.048	Base....		27.143	63.5	27.048	Base....		27.129	62.5	27.037
Summit	2 2	23.755	66	23.680	Summit.	2 17	23.760	71.5	23.672	Summit.	2 32	23.768	73	23.678	Summit.	2 47	23.745	68	23.665
Base...		......	......	......	Base....		27.148	65	27.053	Base....		27.136	63.5	27.041	Base....		27.131	62.5	27.039
Summit	2 3	23.755	66.5	23.679	Summit.	2 18	23.763	71.5	23.675	Summit.	2 33	23.775	73	23.685	Summit.	2 48	23.740	68	23.660
Base...		......	......	......	Base....		27.144	64.5	27.047	Base....		27.133	63.5	27.038	Base....		27.132	62.5	27.040
Summit	2 4	23.753	66.5	23.677	Summit	2 19	23.763	72	23.674	Summit.	2 34	23.780	73	23.690	Summit.	2 49	23.738	67.5	23.659
Base...		......	......	......	Base....		27.142	64	27.046	Base....		27.133	63.5	27.038	Base....		27.132	62.5	27.040
Summit	2 5	23.755	67	23.678	Summit.	2 20	23.765	72	23.676	Summit.	2 35	23.782	73	23.692	Summit.	2 50	23.730	67	23.652
Base...		27.152	65	27.054	Base....		27.140	64	27.044	Base....		27.134	63	27.041	Base....		27.133	62.5	27.041
Summit	2 6	23.758	68	23.678	Summit	2 21	23.768	72	23.679	Summit.	2 36	23.780	73	23.690	Summit.	2 51	23.720	66.5	23.643
Base ..		27.152	65	27.054	Base....		27.138	64	27.042	Base....		27.133	63	27.040	Base....		27.137	62.5	27.045
Summit	2 7	23.755	68	23.675	Summit.	2 22	23.762	72	23.673	Summit	2 37	23.772	73	23.682	Summit.	2 52	23.720	65.5	23.645
Base...		27.148	65	27.050	Base....		27.140	64	27.044	Base...		27.131	63	27.038	Base....		27.139	62.5	27.047
Summit	2 8	23.755	69	23.673	Summit.	2 23	23.763	72	23.674	Summit.	2 38	23.778	73	23.688	Summit.	2 53	23.720	65	23.646
Base...		27.148	65	27.050	Base....		27.138	64	27.042	Base....		27.129	63	27.036	Base....		27.134	62.5	27.042
Summit	2 9	23.760	69.5	23.677	Summit	2 24	23.763	72.5	23.673	Summit.	2 39	23.770	73.5	23.679	Summit.	2 54	23.715	64	23.643
Base...		27.151	65	27.053	Base....		27.140	64	27.044	Base...		27.132	63	27.039	Base....		27.132	62.5	27.040
Summit	2 10	23.760	69.5	23.676	Summit.	2 25	23.760	72.5	23.670	Summit.	2 40	23.770	73.5	23.619	Summit.	2 55	23.710	63	23.640
Base...		27.147	65	27.049	Base....		27.140	64	27.044	Base....		27.131	63	27.038	Base....		27.130	62.5	22.038
Summit	2 11	23.758	70	23.673	Summit	2 26	23.760	73	23.670	Summit	2 41	23.765	73	23.675	Summit.	2 56	23.700	63.5	23.630
Base...		27.149	65	27.051	Base....		27.142	64	27.046	Base....		27.130	62.5	27.038	Base....		27.124	62.5	77.032
Summit	2 12	23.758	70	23.673	Summit	2 27	23.760	73	23.670	Summit.	2 42	23.760	72	23.672	Summit.	2 57	23.700	64	23.629
Base...		27.149	65	27.051	Base....		27.142	64	27.046	Base....		27.132	62.5	27.040	Base....		27.121	62.5	27.029
Summit	2 13	23.760	70.5	23.674	Summit.	2 28	23.760	73	23.670	Summit.	2 43	23.752	71	23.666	Summit.	2 58	23.705	64	23.634
Base...		27.147	65	27.049	Base....		27.144	63.5	27.049	Base ...		27.136	62.5	27.044	Base....		27.115	62.5	27.023
Summit	2 14	23.760	71	23.673	Summit	2 29	23.760	73	23.670	Summit	2 44	23.752	70	23.668	Summit.	2 59	23.705	64	23.634
Base...		27.144	65	27.046	Base....		27.150	63.5	27.055	Base....		27.134	62.5	27.042	Base....		27.110	62.5	27.018

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

Meteorological record for May 12, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Summit	2 0	23. 484	50	23. 444	Summit.	2 15	23. 490	54. 5	23. 440	Summit.	2 30	23. 490	58. 5	23. 432	Summit.	2 45	23. 490	63. 5	23. 422
Base...		26. 959	64	26. 863	Base....		26. 958	64. 5	26. 861	Base....		26. 956	64	26. 860	Base....		26. 955	63. 5	26. 860
Summit	2 1	23. 482	51	23. 440	Summit.	2 16	23. 488	55	23. 437	Summit.	2 31	23. 490	58. 5	23. 432	Summit	2 46	23. 490	64	23. 420
Base...		26. 959	64	26. 863	Base....		26. 959	64. 5	26. 862	Base....		26. 956	64	26. 860	Base....		26. 956	63. 5	26. 861
Summit	2 2	23. 482	51. 5	23. 439	Summit.	2 17	23. 488	55	23. 437	Summit.	2 32	23. 490	59	23. 431	Summit.	2 47	23. 496	64	23. 426
Base...		26. 958	64	26. 862	Base....		26. 958	64	26. 862	Base....		26. 956	64	26. 860	Base....		26. 954	63. 5	26. 859
Summit	2 3	23. 485	52	23. 441	Summit.	2 18	23. 488	55	23. 437	Summit.	2 33	23. 490	59	23. 431	Summit.	2 48	23. 490	64	23. 420
Base...		26. 958	63. 5	26. 863	Base....		26. 958	64	26. 862	Base....		26. 956	64	26. 860	Base....		26. 953	63. 5	26. 858
Summit	2 4	23. 485	53	23. 439	Summit.	2 19	23. 490	55. 5	23. 438	Summit.	2 34	23. 492	59. 5	23. 432	Summit.	2 49	23. 496	64	23. 426
Base...		26. 960	63. 5	26. 865	Base....		26. 959	64	26. 863	Base....		26. 954	64	26. 858	Base....		26. 954	63. 5	26. 859
Summit	2 5	23. 482	53	23. 436	Summit.	2 20	23. 490	56	23. 437	Summit.	2 35	23. 490	59. 5	23. 430	Summit.	2 50	23. 490	64	23. 420
Base...		26. 960	63. 5	26. 865	Base....		26. 958	64	26. 862	Base....		26. 953	64	26. 857	Base....		26. 953	63. 5	26. 858
Summit	2 6	23. 482	53	23. 436	Summit	2 21	23. 490	56	23. 437	Summit.	2 36	23. 490	60	23. 429	Summit	2 51	23. 490	64	23. 420
Base...		26. 959	63. 5	26. 864	Base....		26. 958	64	26. 862	Base....		26. 953	64	26. 857	Base....		26. 953	63. 5	26. 858
Summit	2 7	23. 484	53. 5	23. 437	Summit.	2 22	23. 485	56	23. 432	Summit.	2 37	23. 495	61	23. 432	Summit.	2 52	23. 486	64. 5	23. 415
Base...		26. 958	64	26. 862	Base....		26. 958	64	26. 862	Base....		26. 953	64	26. 857	Base....		26. 953	63. 5	26. 858
Summit	2 8	23. 486	54	23. 438	Summit.	2 23	23. 487	56. 5	23. 433	Summit.	2 38	23. 496	61. 5	23. 432	Summit.	2 53	23. 486	64. 5	23. 415
Base...		26. 959	64	26. 863	Base....		26. 960	64	26. 864	Base....		26. 953	64	26. 857	Base....		26. 956	63. 5	26. 861
Summit	2 9	23. 486	54	23. 438	Summit.	2 24	23. 487	56. 5	23. 433	Summit.	2 39	23. 494	62	23. 429	Summit.	2 54	23. 490	64. 5	23. 419
Base...		26. 958	64	26. 862	Base....		26. 959	64	26. 863	Base...		26. 953	64	26. 857	Base....		26. 953	64	26. 857
Summit	2 10	23. 490	54	23. 442	Summit	2 25	23. 487	56. 5	23. 433	Summit.	2 40	23. 490	63	23. 429	Summit.	2 53	23. 488	64. 5	23. 417
Base...		26. 957	64	26. 861	Base....		26. 958	64	26. 862	Base....		26. 953	64	26. 857	Base....		26. 951	64	26. 855
Summit	2 11	23. 490	54	23. 442	Summit.	2 26	23. 486	57	23. 431	Summit.	2 41	23. 494	63	23. 427	Summit	2 56	23. 488	64	23. 418
Base...		26. 958	64. 5	26. 861	Base....		26. 957	64	26. 861	Base....		26. 953	64	26. 857	Base....		26. 953	64	26. 857
Summit	2 12	23. 490	54	23. 441	Summit.	2 27	23. 486	57	23. 431	Summit.	2 42	23. 490	63	23. 423	Summit.	2 57	23. 492	63. 5	23. 423
Base...		26. 954	64. 5	26. 857	Base....		26. 957	64	26. 861	Base....		26. 953	64	26. 857	Base....		26. 953	64	26. 857
Summit	2 13	23. 495	54	23. 446	Summit.	2 28	23. 486	57. 5	23. 430	Summit.	2 43	23. 490	63	23. 423	Summit.	2 58	23. 482	63	23. 415
Base...		26. 957	64. 5	26. 860	Base....		26. 957	64	26. 861	Base....		26. 955	63. 5	26. 860	Base....		26. 953	64	26. 857
Summit	2 14	23. 495	54	23. 446	Summit.	2 29	23. 490	58	23. 433	Summit.	2 44	23. 495	63	23. 428	Summit.	2 59	23. 490	63	23. 423
Base...		26. 958	64. 5	26. 861	Base....		26. 955	64	26. 859	Base....		26. 953	63. 5	26. 858	Base....		26. 953	64	26. 857

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

Meteorological record for May 13, 1873

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Summit	2 0	23.340	57.5	23.284	Summit.	2 15	23.338	56.5	23.284	Summit.	2 30	23.325	58	23.272	Summit.	2 45	23.329	58	23.272
Base...		26.741	61	26.654	Base....		26.743	62	26.654	Base....		26.744	63	26.653	Base....		26.748	62.5	26.658
Summit	2 1	23.340	57.5	23.284	Summit.	2 16	23.338	56.5	23.284	Summit.	2 31	23.325	56	23.272	Summit.	2 46	23.329	58	23.272
Base...		26.741	61	26.654	Base....		26.743	62	26.654	Base ...		26.747	63	26.656	Base....		26.742	62.5	26.652
Summit	2 2	23.340	57.5	23.284	Summit.	2 17	23.333	56	23.280	Summit.	2 32	23.325	56	23.272	Summit	2 47	23.329	58	23.272
Base...		26.740	61.5	26.652	Base ...		26.743	62	26.654	Base....		26.748	63	26.657	Base....		26.742	62.5	26.652
Summit	2 3	23.341	57.5	23.285	Summit.	2 18	23.329	56	23.276	Summit.	2 33	23.330	56.5	23.276	Summit.	2 48	23.328	58.5	23.270
Base...		26.739	61.5	26.651	Base....		26.742	62	26.653	Base....		26.747	63	26.656	Base....		26.749	62.5	26.659
Summit	2 4	23.341	57	23.286	Summit.	2 19	23.329	56	23.276	Summit.	2 34	23.330	57	23.275	Summit.	2 49	23.325	58.5	23.267
Base...		26.741	61.5	26.653	Base....		26.741	62.5	26.651	Base....		26.748	63	26.657	Base....		26.749	62.5	26.659
Summit	2 5	23.340	57	23.285	Summit.	2 20	23.331	56	23.278	Summit.	2 35	23.322	57	23.267	Summit.	2 50	23.335	58.5	23.267
Base...		26.741	61.5	26.653	Base....		26.741	62.5	26 651	Base....		26.748	63	26.657	Base....		26.750	62.5	26.660
Summit	2 6	23.340	57	23.285	Summit.	2 21	23.330	56	23.277	Summit.	2 36	23.321	57.5	23.265	Summit.	2 51	23.315	58.5	23.257
Base...		26.741	62	26.652	Base....		26.740	62.5	26.650	Base....		26.747	63	26.656	Base....		26.750	62.5	26.660
Summit	2 7	23.339	57	23.284	Summit.	2 22	23.328	56	23.275	Summit.	2 37	23.330	57.5	23.274	Summit	2 52	23.310	58.5	23.252
Base...		26.739	62	26.650	Base....		26.741	62.5	26.651	Base....		26.748	62.5	26.658	Base....		26,750	62	26.661
Summit	2 8	23.339	57	23.284	Summit.	2 23	23.331	56	23.278	Summit.	2 38	23.328	57.5	23.272	Summit.	2 53	23.307	58.5	23.249
Base ...		26.738	62	26.649	Base....		26.741	63	26.650	Base....		26.748	63	26.657	Base....		26.750	62	26.661
Summit	2 9	23.339	57	23.284	Summit.	2 24	23.331	56	23.278	Summit.	2 39	23.331	58	23.274	Summit.	2 54	23.305	58.5	23.247
Base....		26.740	62	26.651	Base....		26.742	63	26.651	Base....		26.745	63	26.654	Base....		26.748	62.5	26.658
Summit	2 10	23.339	57	23.284	Summit.	2 25	23.337	56	23.284	Summit.	2 40	23.330	58	23.273	Summit.	2 55	23.305	58.5	23.247
Base...		26.742	62	26.653	Base....		26.741	63	26.650	Base....		26.747	62.5	26.657	Base....		26.747	62.5	26.657
Summit	2 11	23.338	57	23.283	Summit.	2 26	23.335	56	23.282	Summit.	2 41	23.330	58	23.273	Summit.	2 56	23.310	58.5	23.252
Base ..		26.742	62	26.653	Base....		26.741	63	26.650	Base		26.747	63	26.656	Base....		26.747	62.5	26.657
Summit	2 12	23.338	57	23.283	Summit.	2 27	23.335	56	23.282	Summit	2 42	23.329	58	23.272	Summit.	2 57	23.320	59	23.261
Base...		26.744	62	26.655	Base		26.741	63	26.650	Base....		26.746	63	26.655	Base		26.745	62.5	26.655
Summit	2 13	23.338	57	23.283	Summit.	2 28	23.335	56	23.282	Summit.	2 43	23.329	58	23.272	Summit.	2 58	23.312	59	23.253
Base...		26.743	62	26.654	Base....		26.741	63	26.650	Base		26.746	62.5	26.656	Base....		26.745	62.5	26.655
Summit	2 14	23.338	57	23.283	Summit.	2 29	23.328	56	23.275	Summit.	2 44	23.329	58	23.272	Summit.	2 59	23.308	59	23.249
Base...		26.744	62	26.655	Base....		26.741	62.5	26.651	Base....		26.744	62.5	26.654	Base....		26.743	63	26.652

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

Meteorological record for May 14, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation. p. m.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation. p. m.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation. p. m.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation. p. m.	Barometer.	Attached thermometer.	Corrected barometer.
Summit	2 0	23.288	60	23.227	Summit.	2 15	23.285	58.5	23.227	Summit.	2 30	23.265	58	23.208	Summit.	2 45	23.278	55.5	23.226
Base		26.841	50	26.779	Base		26.846	50	26.784	Base		26.843	50	26.781	Base		26.847	49	26.787
Summit	2 1	23.292	60	23.231	Summit.	2 16	23.295	58	23.238	Summit.	2 31	23.265	58	23.208	Summit.	2 46	23.288	55.5	23.236
Base		26.841	50	26.779	Base		26.843	50	26.781	Base		26.841	50	26.779	Base		26.845	49.5	26.784
Summit	2 2	23.305	60	23.244	Summit.	2 17	23.300	58	23.243	Summit.	2 32	23.265	57.5	23.208	Summit	2 47	23.288	55.5	23.236
Base		26.840	50	26.778	Base		26.847	50	26.785	Base		26.841	50	26.779	Base		26.844	49.5	26.783
Summit	2 3	23.300	60	23.239	Summit.	2 18	23.295	58	23.238	Summit.	2 33	23.270	57.5	23.214	Summit.	2 48	23.284	55.5	23.232
Base		26.841	50	26.779	Base		26.842	50	26.780	Base		26.843	49.5	26.782	Base		26.845	49	26.785
Summit	2 4	23.303	60	23.242	Summit.	2 19	23.295	58	23.238	Summit.	2 34	23.270	57	23.215	Summit.	2 49	23.284	55	23:233
Base		26.841	50	26.779	Base		26.847	50	26.785	Base		26.842	49.5	26.781	Base		26.843	49	26.783
Summit	2 5	23.313	59.5	23.253	Summit.	2 20	23.280	58	23.223	Summit.	2 35	23.270	57	23.215	Summit.	2 50	23.284	55	23.233
Base		26.846	50	26.784	Base		26.848	50	26.786	Base		26.847	49.5	26.786	Base		26.843	49	26.783
Summit	2 6	23.314	59.5	23.254	Summit.	2 21	23.270	58	23.213	Summit.	2 36	23.265	57	23.210	Summit.	2 51	23.286	55	23.235
Base		26.842	50	26.780	Base		26.848	50	26.784	Base		26.842	49.5	26.781	Base		26.843	49	26.783
Summit	2 7	23.302	59	23.243	Summit.	2 22	23.282	58	23.225	Summit.	2 37	23.265	57	23.210	Summit.	2 52	23.290	55	23.239
Base		26.843	50	26.781	Base		26.844	50	26.782	Base		26.847	49.5	26.786	Base		26.844	49	26.784
Summit	2 8	23.303	59	23.244	Summit.	2 23	23.280	58	23.223	Summit.	2 38	23.270	56.5	23.216	Summit.	2 53	23.290	55	23.239
Base		26.843	50	26.781	Base		26.848	50	26.786	Base		26.847	40.5	26.786	Base		26.841	49	26.781
Summit	2 9	23.308	59	23.249	Summit.	2 24	23.275	58	23.218	Summit.	2 39	23.270	56.5	23.216	Summit.	2 54	23.290	55	23.239
Base		26.845	50	26.783	Base		26.846	50	26.784	Base		26.842	49.5	26.781	Base		26.840	49	26.780
Summit	2 10	23.300	59	23.241	Summit.	2 25	23.250	58	23.193	Summit.	2 40	23.272	56.5	23.218	Summit.	2 55	23.284	55	23.233
Base		26.842	50	26.780	Base		26.847	50	26.785	Base		26.846	49	26.786	Base		26.841	49	26.781
Summit	2 11	23.300	59	23.241	Summit	2 26	23.264	58	23.207	Summit.	2 41	23.265	56	23.212	Summit.	2 56	23.283	55	23.232
Base		26.843	50	26.781	Base		26.846	50	26.784	Base		26.845	49	26.785	Base		26.841	49	26.781
Summit	2 12	23.300	59	23.241	Summit	2 27	23.278	58	23.221	Summit.	2 42	23.272	56	23.219	Summit.	2 57	23.278	55	23.227
Base		26.842	50	26.780	Base		26.845	50	26.783	Base		26.845	49	26.785	Base		26.840	49	26.780
Summit	2 13	23.300	59	23.241	Summit	2 28	23.268	58	23.211	Summit.	2 43	23.284	56	23.231	Summit.	2 58	23.300	55	23.249
Base		26.841	50	26.779	Base		26.843	50	26.781	Base		26.844	49	26.784	Base		26.841	49	26.781
Summit	2 14	23.300	58.5	23.242	Summit.	2 29	23.264	58	23.207	Summit.	2 44	23.280	56	23.227	Summit.	2 59	23.298	54.5	23.248
Base		26.842	50	26.780	Base		26.841	50	26.779	Base		26.849	49	26.789	Base		26.841	49	26.781

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

Meteorological record for May 15, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Summit	2 0	23. 492	61	23. 429	Summit.	2 15	23. 505	61	23. 442	Summit.	2 30	23. 516	61	23. 453	Summit.	2 45	28. 518	60. 5	23. 455
Base ...		26. 999	55. 5	26. 924	Base		27. 002	56	26. 926	Base		27. 002	56	26. 926	Base		27. 002	56	26. 926
Summit	2 1	23. 492	61	23. 429	Summit.	2 16	23. 510	61	23. 447	Summit.	2 31	23. 516	61	23. 453	Summit.	2 46	23. 518	60. 5	23. 455
Base ...		26. 998	55. 5	26. 923	Base		27. 003	56	26. 927	Base		27. 001	56	26. 925	Base		27. 001	55. 5	26. 926
Summit	2 2	23. 493	61	23. 430	Summit.	2 17	23. 510	61	23. 447	Summit.	2 32	23. 520	61	23. 457	Summit.	2 47	23. 518	60. 5	23. 455
Base ...		26. 997	56	26. 921	Base		27. 003	56	26. 927	Base		27. 001	56	26. 925	Base		27. 002	55. 5	26. 927
Summit	2 3	23. 493	61	23. 430	Summit.	2 18	23. 510	61	23. 447	Summit.	2 33	23. 520	61	23. 457	Summit.	2 48	23. 518	60. 5	23. 455
Base ..		26. 997	56	26. 921	Base		27. 003	56. 5	26. 926	Base		27. 003	56	26. 927	Base		27. 002	55. 5	26. 927
Summit	2 4	23. 493	61. 5	23. 429	Summit.	2 19	23. 517	61	23. 454	Summit.	2 34	23. 519	60. 5	23. 456	Summit.	2 49	23. 518	60	23. 456
Base ...		26. 997	56	26. 921	Base		27. 003	56. 5	26. 926	Base		27. 002	56	26. 926	Base		27. 002	55. 5	26. 927
Summit	2 5	23. 500	62	23. 435	Summit.	2 20	23. 515	61	23. 452	Summit.	2 35	23. 517	60	23. 455	Summit.	2 50	23. 519	60	23. 457
Base ...		26. 999	56	26. 923	Base		27. 003	56. 5	26. 925	Base		27. 001	56	26. 925	Base		27. 002	55	26. 928
Summit	2 6	23. 498	62	23. 433	Summit.	2 21	23. 515	61	23. 452	Summit.	2 36	23. 520	60	23. 458	Summit.	2 51	23. 519	60	23. 457
Base ...		26. 999	56	26. 923	Base		27. 002	56. 5	26. 925	Base		27. 001	56	26. 925	Base		27. 002	55	26. 928
Summit	2 7	23. 500	61. 5	23. 436	Summit.	2 22	23. 515	61	23. 452	Summit.	2 37	23. 519	60	23. 457	Summit.	2 52	23. 519	60	23. 457
Base ...		26. 999	56	26. 920	Base		27. 001	56. 5	26. 924	Base		27. 001	56	26. 925	Base		27. 002	55	26. 928
Summit	2 8	23. 500	61	23. 437	Summit.	2 23	23. 515	61	23. 452	Summit.	2 38	23. 519	60	23. 457	Summit.	2 53	23. 519	60	23. 457
Base ...		26. 999	56	26. 923	Base		27. 002	56. 5	26. 925	Base		27. 000	56	26. 924	Base		27. 002	55	26. 928
Summit	2 9	23. 505	61	23. 442	Summit.	2 24	23. 519	61	23. 456	Summit.	2 39	23. 519	60	23. 457	Summit.	2 54	23. 520	60	23. 458
Base ...		27. 000	56	26. 924	Base		27. 002	56. 5	26. 925	Base		27. 000	56	26. 924	Base		27. 002	55	26. 928
Summit	2 10	23. 505	61	23. 442	Summit	2 25	23. 518	61	23. 455	Summit	2 40	23. 515	60	23. 453	Summit.	2 55	23. 519	60	23. 457
Base ...		26. 999	56	26. 923	Base		27. 003	56. 5	26. 926	Base		27. 001	56	26. 925	Base		27. 001	55	26. 927
Summit	2 11	23. 505	61	23. 442	Summit.	2 26	23. 518	61	23. 455	Summit.	2 41	23. 515	60	23. 453	Summit.	2 56	23. 519	60	23. 457
Base ...		27. 000	56	26. 924	Base		27. 002	56. 5	26. 925	Base		27. 001	55. 5	26. 926	Base		27. 000	55	26. 926
Summit	2 12	23. 505	61	23. 442	Summit	2 27	23. 517	61	23. 454	Summit.	2 42	23. 518	60	23. 456	Summit.	2 57	23. 519	60	23. 457
Base ...		26. 999	56	26. 923	Base		27. 002	56	26. 926	Base		27. 002	55. 5	26. 927	Base		27. 000	55	26. 926
Summit	2 13	23. 505	61	23. 442	Summit.	2 28	23. 516	61	23. 453	Summit.	2 43	23. 518	60. 5	23. 455	Summit.	2 58	23. 519	60. 5	23. 457
Base ...		27. 000	56	26. 924	Base ...		27. 001	56	26. 925	Base		27. 002	55. 5	26. 927	Base		27. 002	55	26. 928
Summit	2 14	23. 505	61	23. 442	Summit	2 29	23. 516	61	23. 453	Summit.	2 44	23. 518	60. 5	23. 455	Summit.	2 59	23. 519	60. 5	23. 457
Base ...		27. 001	56	26. 925	Base		27. 001	56	26. 925	Base		27. 002	55. 5	26. 927	Base		27. 002	55	26. 928

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

Meteorological record for May 16, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Summit	2 0	23.630	57	23.575	Summit.	2 15	23.619	55.5	23.567	Summit.	2 30	23.610	53	23.563	Summit.	2 45	23.614	59	23.555
Base ...		27.077	57	26.998	Base		27.075	57	26.996	Base		27.078	56	27.001	Base		27.077	56	27.000
Summit	2 1	23.620	56	23.567	Summit.	2 16	23.620	56	23.567	Summit.	2 31	23.612	53	23.565	Summit.	2 46	23.615	59.5	23.555
Base ...		27.074	56.5	26.996	Base		27.075	56.5	26.997	Base		27.078	56	27.001	Base		27.077	56	27.000
Summit	2 2	23.620	56	23.567	Summit	2 17	23.620	56	23.567	Summit.	2 32	23.612	53.5	23.564	Summit.	2 47	23.619	60	23.558
Base ...		27.074	56.5	26.996	Base		27.075	56.5	26.997	Base		27.076	56.5	26.998	Base		27.077	55.5	27.001
Summit	2 3	23.620	56	23.567	Summit.	2 18	23.620	56	23.567	Summit.	2 33	23.612	53.5	23.564	Summit.	2 48	23.618	60.5	23.557
Base ...		27.076	57	26.997	Base		27.076	56.5	26.998	Base		27.075	56	26.998	Base		27.075	56	26.998
Summit	2 4	23.620	57	23.565	Summit	2 19	23.618	56	23.565	Summit.	2 34	23.610	53.5	23.562	Summit.	2 49	23.615	61	23.552
Base ..		27.073	56.5	26.995	Base		27.075	56	26.998	Base		27.075	56	26.998	Base		27.075	55.5	26.999
Summit	2 5	23.620	56	23.567	Summit.	2 20	23.615	56	23.562	Summit.	2 35	23.611	53.5	23.563	Summit.	2 50	23.618	61	23.555
Base ...		27.075	56.5	26.997	Base		27.077	56	27.000	Base		27.078	56	27.001	Base		27.078	55	27.003
Summit	2 6	23.619	56	23.566	Summit.	2 21	23.615	55.5	23.563	Summit.	2 36	23.611	54	23.562	Summit.	2 51	23.620	62	23.555
Base ..		27.075	56.5	26.997	Base		27.077	56	27.000	Base		27.075	56	26.998	Base		27.073	55.5	26.997
Summit	2 7	23.620	56	23.567	Summit.	2 22	23.614	55.5	23.562	Summit.	2 37	23.612	54	23.563	Summit.	2 52	23.620	62	23.555
Base ..		27.073	56.5	26.995	Base		27.075	56.5	26.997	Base		27.075	56	26.998	Base		27.073	55.5	26.997
Summit	2 8	23.620	56	23.567	Summit.	2 23	23.616	55	23.565	Summit.	2 38	23.610	54	23.561	Summit.	2 53	23.620	62.5	23.554
Base .		27.073	56.5	26.995	Base		27.073	56	26.996	Base		27.075	56	26.998	Base		27.073	56	26.996
Summit	2 9	23.620	56	23.567	Summit.	2 24	23.616	55	23.565	Summit.	2 39	23.610	55	23.559	Summit.	2 54	23.620	62.5	23.554
Base ...		27.073	56.5	26.995	Base		27.073	56	26.996	Base		27.077	56	27.000	Base ...		27.073	55.5	26.997
Summit	2 10	23.617	55.5	23.564	Summit.	2 25	23.616	55	23.565	Summit	2 40	23.614	56	23.561	Summit.	2 55	23.621	63	23.554
Base ...		27.074	56.5	26.996	Base ...		27.074	56	26.997	Base		27.078	55.5	27.002	Base		27.073	55.5	26.997
Summit	2 11	23.620	56	23.567	Summit.	2 26	23.618	53.5	23.570	Summit.	2 41	23.614	57.5	23.558	Summit.	2 56	23.620	63	23.553
Base ..		27.075	57	26.996	Base		27.075	56	26.998	Base		27.078	55.5	27.002	Base		27.072	55.5	26.996
Summit	2 12	23.620	56	23.567	Summit.	2 27	23.615	53	23.568	Summit.	2 42	23.614	58	23.557	Summit.	2 57	23.620	63	23.553
Base ...		27.075	57	26.996	Base ...		27.075	56	26.998	Base		27.075	55.5	26.999	Base		27.074	56	26.997
Summit	2 13	23.618	55	23.567	Summit.	2 28	23.614	53	23.567	Summit.	2 43	23.610	58	23.553	Summit.	2 58	23.625	63.5	23.557
Base ...		27.073	56.5	26.995	Base ..		27.073	56	26.996	Base		27.073	55.5	26.997	Base		27.074	56	26.997
Summit	2 14	23.618	55.5	23.566	Summit	2 20	23.614	53	23.567	Summit.	2 44	23.614	58.5	23.556	Summit.	2 59	23.626	63.5	23.558
Base ...		27.078	57	26.999	Base		27.076	56	26.999	Base		27.075	55.5	26.999	Base		27.073	56	26.996

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

Meteorological record for May 17, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Summit	2 0	23.618	64.5	23.547	Summit.	2 15	23.639	66.5	23.564	Summit	2 30	23.622	67.5	23.545	Summit	2 45	23.630	68	23.552
Base...		27.083	52	27.016	Base ...		27.082	53	27.013	Base....		27.093	54	27.021	Base....		27.091	54.5	27.018
Summit	2 1	23.621	64.5	23.550	Summit.	2 16	23.639	66.5	23.564	Summit.	2 31	23.630	67.5	23.553	Summit.	2 46	23.630	68	23.552
Base...		27.085	52.5	27.017	Base ...		27.082	53	27.013	Base....		27.093	54	27.021	Base....		27.092	54.5	27.019
Summit	2 2	23.621	65	23.549	Summit.	2 17	23.639	66.5	23.564	Summit.	2 32	23.623	67.5	23.546	Summit.	2 47	23.619	68	23.541
Base...		27.083	52.5	27.015	Base....		27.083	53	27.014	Base ...		27.095	54	27.023	Base....		27.091	54.5	27.018
Summit	2 3	23.621	65.5	23.548	Summit.	2 18	23.639	67	23.563	Summit	2 33	23.620	67.5	23.543	Summit.	2 48	23.631	68	23.553
Base...		27.083	52	27.016	Base....		27.083	53	27.014	Base....		27.097	54.5	27.024	Base....		27.092	55	27.018
Summit	2 4	23.622	65.5	23.549	Summit.	2 19	23.634	67	23.558	Summit.	2 34	23.625	67.5	23.548	Summit.	2 49	23.635	68	23.557
Base...		27.081	52	27.014	Base....		27.084	53	27.015	Base....		27.097	54.5	27.024	Base....		27.091	55	27.017
Summit	2 5	23.622	66	23.548	Summit.	2 20	23.634	67	23.558	Summit.	2 35	23.620	67.5	23.543	Summit.	2 50	23.640	68	23.562
Base...		27.081	52	27.014	Base....		27.086	53	27.017	Base....		27.095	54.5	27.022	Base....		27.091	55	27.017
Summit	2 6	23.629	66	23.555	Summit.	2 21	23.634	67.5	23.557	Summit.	2 36	23.620	68	23.542	Summit.	2 51	23.640	68	23.562
Base...		27.081	52	27.014	Base....		27.088	53.5	27.018	Base....		27.095	54	27.023	Base....		27.091	55	27.017
Summit	2 7	23.629	66	23.555	Summit.	2 22	23.634	67.5	23.557	Summit.	2 37	23.615	68	23.537	Summit.	2 52	23.635	68	23.557
Base...		27.080	52	27.013	Base....		27.089	54	27.017	Base....		27.096	54	27.024	Base....		27.091	55	27.017
Summit	2 8	23.629	66.5	23.554	Summit.	2 23	23.635	67.5	23.558	Summit	2 38	23.624	68	23.546	Summit.	2 53	23.635	68	23.557
Base...		27.082	52	27.015	Base....		27.088	54	27.016	Base....		27.095	54	27.023	Base....		27.090	55	27.016
Summit	2 9	23.629	66.5	23.554	Summit.	2 24	23.635	67.5	23.558	Summit.	2 39	23.620	68	23.542	Summit.	2 54	23.638	68	23.560
Base...		27.082	52.5	27.014	Base....		27.091	54	27.019	Base....		27.093	54	27.021	Base ...		27.092	55	27.018
Summit	2 10	23.629	66.5	23.554	Summit.	2 25	23.630	67.5	23.553	Summit.	2 40	23.617	68	23.539	Summit.	2 55	23.638	68	23.560
Base...		27.083	52.5	27.015	Base....		27.090	54	27.018	Base....		27.093	54	27.021	Base....		27.092	55	27.018
Summit	2 11	23.629	66.5	23.554	Summit.	2 26	23.630	67.5	23.553	Summit.	2 41	23.622	68	23.544	Summit.	2 56	23.641	68	23.563
Base...		27.082	53	27.013	Base....		27.092	54	27.020	Base....		27.093	54.5	27.020	Base....		27.091	55	27.017
Summit	2 12	23.629	66.5	23.554	Summit.	2 27	23.629	67.5	23.552	Summit.	2 42	23.620	68	23.542	Summit.	2 57	23.641	68	23.563
Base...		27.082	53	27.013	Base....		27.094	54	27.022	Base....		27.092	54.5	27.019	Base....		27.091	55	27.017
Summit	2 13	23.635	66.5	23.560	Summit.	2 28	23.629	67.5	23.552	Summit.	2 43	23.620	68	23.542	Summit	2 58	23.641	68	23.563
Base...		27.080	53	27.011	Base....		27.093	54	27.021	Base....		27.091	54.5	27.018	Base....		27.091	55	27.017
Summit	2 14	23.635	68.5	23.560	Summit.	2 29	23.622	67.5	23.545	Summit	2 44	23.620	68	23.542	Summit.	2 59	23.640	68	23.562
Base...		27.081	53	27.012	Base....		27.095	54	27.023	Base....		27.093	54.5	27.020	Base....		27.089	55	27.015

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected f temperature and instrumental error only.

Meteorological record for May 16, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Summit	2 0	23.630	57	23.575	Summit.	2 15	23.619	55.5	23.567	Summit.	2 30	23.610	53	23.563	Summit.	2 45	23.614	59	23.555
Base...		27.077	57	26.998	Base....		27.075	57	26.996	Base....		27.078	56	27.001	Base....		27.077	56	27.000
Summit	2 1	23.620	56	23.567	Summit.	2 16	23.620	56	23.567	Summit.	2 31	23.612	53	23.565	Summit.	2 46	23.615	59.5	23.555
Base...		27.074	56.5	26.996	Base....		27.075	56.5	26.997	Base....		27.078	56	27.001	Base....		27.077	56	27.000
Summit	2 2	23.620	56	23.567	Summit.	2 17	23.620	56	23.567	Summit.	2 32	23.612	53.5	23.564	Summit.	2 47	23.619	60	23.558
Base...		27.074	56.5	26.996	Base....		27.075	56.5	26.997	Base....		27.076	56.5	26.998	Base....		27.077	55.5	27.001
Summit	2 3	23.620	56	23.567	Summit.	2 18	23.620	56	23.567	Summit.	2 33	23.612	53.5	23.564	Summit.	2 48	23.618	60.5	23.557
Base ..		27.076	57	26.997	Base....		27.076	56.5	26.998	Base....		27.075	56	26.998	Base....		27.075	56	26.998
Summit	2 4	23.620	57	23.565	Summit	2 19	23.618	56	23.565	Summit.	2 34	23.610	53.5	23.562	Summit.	2 49	23.615	61	23.552
Base ..		27.073	56.5	26.995	Base....		27.075	56	26.998	Base....		27.075	56	26.998	Base....		27.075	55.5	26.999
Summit	2 5	23.620	56	23.567	Summit.	2 20	23.615	56	23.562	Summit.	2 35	23.611	53.5	23.563	Summit.	2 50	23.618	61	23.555
Base...		27.075	56.5	26.997	Base....		27.077	56	27.000	Base....		27.078	56	27.001	Base....		27.078	55	27.003
Summit	2 6	23.619	56	23.566	Summit.	2 21	23.615	55.5	23.563	Summit.	2 36	23.611	54	23.562	Summit.	2 51	23.620	62	23.555
Base ..		27.075	56.5	26.997	Base....		27.077	56	27.000	Base....		27.075	56	26.998	Base....		27.073	55.5	26.997
Summit	2 7	23.620	56	23.567	Summit.	2 22	23.614	55.5	23.562	Summit.	2 37	23.612	54	23.563	Summit.	2 52	23.620	62	23.555
Base ..		27.073	56.5	26.995	Base....		27.073	56.5	26.997	Base....		27.075	56	26.998	Base....		27.073	55.5	26.997
Summit	2 8	23.620	56	23.567	Summit.	2 23	23.616	55	23.565	Summit.	2 38	23.610	54	23.561	Summit.	2 53	23.620	62.5	23.554
Base ..		27.073	56.5	26.995	Base....		27.073	56	26.996	Base....		27.075	56	26.998	Base....		27.073	56	26.996
Summit	2 9	23.620	56	23.567	Summit.	2 24	23.616	55	23.565	Summit.	2 39	23.610	55	23.559	Summit.	2 54	23.620	62.5	23.554
Base...		27.073	56.5	26.995	Base....		27.073	56	26.996	Base....		27.077	56	27.000	Base ...		27.073	55.5	26.997
Summit	2 10	23.617	55.5	23.564	Summit.	2 25	23.616	55	23.565	Summit.	2 40	23.614	56	23.561	Summit.	2 55	23.621	63	23.554
Base...		27.074	56.5	26.996	Base...		27.074	56	26.997	Base....		27.078	55.5	27.002	Base....		27.073	55.5	26.997
Summit	2 11	23.620	56	23.567	Summit.	2 26	23.618	53.5	23.570	Summit.	2 41	23.614	57.5	23.558	Summit.	2 56	23.620	63	23.553
Base ..		27.075	57	26.996	Base....		27.075	56	26.998	Base....		27.078	55.5	27.002	Base....		27.072	55.5	26.996
Summit	2 12	23.620	56	23.567	Summit.	2 27	23.615	53	23.568	Summit.	2 42	23.614	58	23.557	Summit.	2 57	23.620	63	23.553
Base...		27.075	57	26.996	Base ...		27.075	56	26.998	Base		27.075	55.5	26.999	Base....		27.074	56	26.997
Summit	2 13	23.618	55	23.567	Summit.	2 28	23.614	53	23.567	Summit.	2 43	23.610	58	23.553	Summit.	2 58	23.625	63.5	23.557
Base...		27.073	56.5	26.995	Base ..		27.073	56	26.996	Base....		27.073	55.5	26.997	Base....		27.074	56	26.997
Summit	2 14	23.618	55.5	23.566	Summit.	2 29	23.614	53	23.567	Summit.	2 44	23.614	58.5	23.556	Summit.	2 59	23.626	63.5	23.558
Base...		27.078	57	26.999	Base....		27.076	56	26.999	Base....		27.075	55.5	26.999	Base....		27.073	56	26.996

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

Meteorological record for May 17, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Summit	2 0	23.618	64.5	23.547	Summit.	2 15	23.639	66.5	23.564	Summit	2 30	23.622	67.5	23.545	Summit	2 45	23.630	68	23.552
Base ...		27.083	52	27.016	Base ...		27.082	53	27.013	Base		27.093	54	27.021	Base		27.091	54.5	27.018
Summit	2 1	23.621	64.5	23.550	Summit.	2 16	23.639	66.5	23.564	Summit.	2 31	23.630	67.5	23.553	Summit.	2 46	23.630	68	23.552
Base ...		27.085	52.5	27.017	Base ...		27.082	53	27.013	Base		27.093	54	27.021	Base		27.092	54.5	27.019
Summit	2 2	23.621	65	23.549	Summit.	2 17	23.639	66.5	23.564	Summit.	2 32	23.623	67.5	23.546	Summit.	2 47	23.619	68	23.541
Base ...		27.083	52.5	27.015	Base		27.083	53	27.014	Base ...		27.095	54	27.023	Base		27.091	54.5	27.018
Summit	2 3	23.621	65.5	23.548	Summit.	2 18	23.639	67	23.563	Summit	2 33	23.620	67.5	23.543	Summit.	2 48	23.631	68	23.553
Base ...		27.083	52	27.016	Base		27.083	53	27.014	Base		27.097	54.5	27.024	Base		27.092	55	27.018
Summit	2 4	23.622	65.5	23.549	Summit.	2 19	23.634	67	23.558	Summit.	2 34	23.625	67.5	23.548	Summit.	2 49	23.635	68	23.557
Base ...		27.081	52	27.014	Base		27.084	53	27.015	Base		27.097	54.5	27.024	Base		27.091	55	27.017
Summit	2 5	23.622	66	23.548	Summit.	2 20	23.634	67	23.558	Summit.	2 35	23.620	67.5	23.543	Summit.	2 50	23.640	68	23.562
Base ...		27.081	52	27.014	Base		27.086	53	27.017	Base		27.095	54.5	27.022	Base		27.091	55	27.017
Summit	2 6	23.629	66	23.555	Summit.	2 21	23.634	67.5	23.557	Summit.	2 36	23.620	68	23.542	Summit.	2 51	23.640	68	23.562
Base ...		27.081	52	27.014	Base		27.088	53.5	27.018	Base		27.095	54	27.023	Base		27.091	55	27.017
Summit	2 7	23.629	66	23.555	Summit.	2 22	23.634	67.5	23.557	Summit.	2 37	23.615	68	23.537	Summit.	2 52	23.635	68	23.557
Base ...		27.080	52	27.013	Base		27.089	54	27.017	Base		27.096	54	27.024	Base		27.091	55	27.017
Summit	2 8	23.629	66.5	23.554	Summit.	2 23	23.635	67.5	23.558	Summit	2 38	23.624	68	23.546	Summit.	2 53	23.635	68	23.557
Base ...		27.082	52	27.015	Base		27.088	54	27.016	Base		27.095	54	27.023	Base		27.090	55	27.016
Summit	2 9	23.629	66.5	23.554	Summit.	2 24	23.635	67.5	23.558	Summit.	2 39	23.620	68	23.542	Summit.	2 54	23.638	68	23.560
Base ...		27.082	52.5	27.014	Base		27.091	54	27.019	Base		27.093	54	27.021	Base ...		27.092	55	27.018
Summit	2 10	23.629	66.5	23.554	Summit.	2 25	23.630	67.5	23.553	Summit.	2 40	23.617	68	23.539	Summit.	2 55	23.638	68	23.560
Base ...		27.083	52.5	27.015	Base		27.090	54	27.018	Base		27.093	54	27.021	Base		27.092	55	27.018
Summit	2 11	23.629	66.5	23.554	Summit.	2 26	23.630	67.5	23.553	Summit.	2 41	23.622	68	23.544	Summit.	2 56	23.641	68	23.563
Base ...		27.082	53	27.013	Base		27.092	54	27.020	Base		27.093	54.5	27.020	Base		27.091	55	27.017
Summit	2 12	23.629	66.5	23.554	Summit.	2 27	23.629	67.5	23.552	Summit.	2 42	23.620	68	23.542	Summit.	2 57	23.641	68	23.563
Base ...		27.082	53	27.013	Base		27.094	54	27.022	Base		27.092	54.5	27.019	Base		27.091	55	27.017
Summit	2 13	23.635	66.5	23.560	Summit.	2 28	23.629	67.5	23.552	Summit.	2 43	23.620	68	23.542	Summit.	2 58	23.641	68	23.563
Base ...		27.080	53	27.011	Base		27.093	54	27.021	Base		27.091	54.5	27.018	Base		27.091	55	27.017
Summit	2 14	23.635	66.5	23.560	Summit.	2 29	23.622	67.5	23.545	Summit.	2 44	23.620	68	23.542	Summit.	2 59	23.640	68	23.562
Base ...		27.081	53	27.012	Base		27.095	54	27.023	Base		27.093	54.5	27.020	Base		27.089	55	27.015

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

Meteorological record for May 18, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Summit	2 0	23.690	61.5	23.626	Summit.	2 15	23.683	60	23.622	Summit.	2 30	23.695	64	23.626	Summit.	2 45	23.695	62	23.630
Base ..		27.163	53	27.094	Base		27.159	54	27.087	Base		27.161	55	27.087	Base ...		27.160	55.5	27.081
Summit	2 1	23.695	61.5	23.631	Summit.	2 16	23.690	60	23.629	Summit	2 31	23.695	64	23.626	Summit.	2 46	23.695	61.5	23.631
Base ..		27.163	53	27.094	Base		27.158	54.5	27.085	Base		27.163	55	27.089	Base		27.160	55.5	27.081
Summit	2 2	23.694	61	23.631	Summit.	2 17	23.690	60	23.629	Summit.	2 32	23.695	64	23.626	Summit.	2 47	23.695	61.5	23.631
Base ...		27.164	53.5	27.094	Base		27.159	54.5	27.086	Base		27.166	55	27.092	Base		27.161	55.5	27.082
Summit	2 3	23.695	61	23.632	Summit.	2 18	23.694	61	23.631	Summit.	2 33	23.692	63.5	23.624	Summit.	2 48	23.692	61	23.629
Base ..		27.162	54	27.090	Base ...		27.150	54.5	27.086	Base		27.164	55	27.090	Base		27.161	55.5	27.082
Summit	2 4	23.694	60.5	23.632	Summit.	2 19	23.695	61	23.632	Summit.	2 34	23.692	63	23.625	Summit.	2 49	23.692	61	23.629
Base ...		27.162	54	27.090	Base		27.159	54.5	27.086	Base		27.167	55	27.093	Base		27.163	55.5	27.084
Summit	2 5	23.690	60	23.629	Summit.	2 20	23.695	61.5	23.631	Summit.	2 35	23.688	62	23.623	Summit.	2 50	23.692	61	23.629
Base ..		27.164	54	27.092	Base		27.160	54.5	27.087	Base		27.166	55	27.092	Base		27.161	55.5	27.082
Summit	2 6	23.692	59.5	23.632	Summit.	2 21	23.694	62	23.629	Summit.	2 36	23.692	62.5	23.626	Summit.	2 51	23.692	61	23.629
Base ...		27.160	54	27.088	Base		27.160	55	27.086	Base		27.166	55	27.092	Base		27.163	56	27.083
Summit	2 7	23.690	60	23.629	Summit	2 22	23.694	63	23.627	Summit.	2 37	23.692	62.5	23.626	Summit	2 52	23.690	61	23.627
Base ..		27.150	54	27.087	Base		27.160	55	27.086	Base		27.164	55	27.090	Base		27.162	56	27.082
Summit	2 8	23.695	60.5	23.633	Summit.	2 23	23.694	63.5	23.626	Summit.	2 38	23.692	62	23.627	Summit.	2 53	23.688	61	23.625
Base ..		27.160	54	27.088	Base		27.159	55	27.085	Base		27.162	55	27.088	Base		27.163	56	27.083
Summit	2 9	23.695	61	23.632	Summit	2 24	23.696	64	23.627	Summit.	2 39	23.693	62	23.628	Summit.	2 54	23.688	61	23.625
Base ..		27.160	54	27.088	Base ...		27.160	55	27.086	Base ...		27.163	55	27.089	Base		27.163	55.5	27.083
Summit	2 10	23.693	61	23.630	Summit.	2 25	23.696	64	23.627	Summit.	2 40	23.692	62	23.627	Summit.	2 55	23.682	61.5	23.618
Base ..		27.159	54	27.087	Base		27.160	55	27.086	Base		27.162	55.5	27.087	Base		27.164	55.5	27.085
Summit	2 11	23.690	60.5	23.628	Summit.	2 26	23.695	64	23.626	Summit.	2 41	23.692	62	23.627	Summit.	2 56	23.682	62	23.617
Base ..		27.159	54	27.087	Base		27.161	55	27.087	Base		27.162	55.5	27.087	Base		27.163	55.5	27.084
Summit	2 12	23.685	60.5	23.623	Summit.	2 27	23.698	64.5	23.628	Summit.	2 42	23.692	62	23.627	Summit.	2 57	23.682	62	23.617
Base ...		27.150	54	27.087	Base ...		27.160	55	27.086	Base		27.163	55.5	27.088	Base		27.162	55.5	27.083
Summit	2 13	23.685	60.5	23.623	Summit	2 28	23.698	64.5	23.628	Summit.	2 43	23.695	62	23.630	Summit.	2 58	23.683	62	23.618
Base ...		27.150	54	27.087	Base		27.162	55	27.088	Base		27.162	55.5	27.087	Base		27.164	56	27.084
Summit	2 14	23.685	60.5	23.623	Summit	2 29	23.695	64.5	23.625	Summit.	2 44	23.698	62	23.633	Summit.	2 59	23.686	62	23.621
Base ...		27.158	54	27.086	Base		27.161	55	27.087	Base		27.164	55.5	27.085	Base		27.162	56	27.084

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

Meteorological record for May 19, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Summit	2 0	23.764	63	23.695	Summit.	2 15	23.781	62	23.715	Summit.	2 30	23.780	63	23.711	Summit.	2 45	23.795	62.5	23.727
Base ..		27.239	56	27.162	Base ...		27.239	57.5	27.158	Base ...		27.240	59	27.156	Base ...		27.249	59	27.165
Summit	2 1	23.770	62	23.704	Summit.	2 16	23.779	62	23.713	Summit.	2 31	23.780	63	23.711	Summit.	2 46	23.793	62.5	23.725
Base...		27.239	56	27.162	Base ...		27.239	57.5	27.158	Base ...		27.242	59	27.158	Base ...		27.250	59	27.166
Summit	2 2	23.769	61.5	23.704	Summit.	2 17	23.782	62	23.716	Summit.	2 32	23.780	63	23.711	Summit.	2 47	23.793	62.5	23.725
Base...		27.239	56.5	27.161	Base ...		27.240	57.5	27.159	Base ...		27.242	59	27.158	Base ...		27.250	59	27.166
Summit	2 3	23.770	61.5	23.705	Summit.	2 18	23.782	62	23.716	Summit	2 33	23.781	63	23.712	Summit.	2 48	23.792	62.5	23.724
Base...		27.239	56.5	27.161	Base ...		27.240	58	27.158	Base ...		27.244	59	27.160	Base ...		27.250	59	27.166
Summit	2 4	23.770	61.5	23.705	Summit.	2 19	23.780	62	23.714	Summit.	2 34	23.787	63	23.718	Summit.	2 49	23.795	62	23.728
Base...		27.238	57	27.158	Base ...		27.240	58	27.158	Base ...		27.242	59	27.158	Base ...		27.250	59	27.166
Summit	2 5	23.770	61.5	23.705	Summit.	2 20	23.780	62	23.714	Summit.	2 35	23.789	63	23.720	Summit.	2 50	23.795	62	23.728
Base...		27.238	57	27.158	Base ...		27.240	58	27.158	Base ...		27.243	59	27.159	Base ...		27.250	59	27.166
Summit	2 6	23.771	62	23.705	Summit.	2 21	23.772	62	23.705	Summit.	2 36	23.789	63	23.720	Summit	2 51	23.790	62	23.723
Base...		27.239	57	27.159	Base ...		27.240	58	27.158	Base ...		27.242	59	27.158	Base ...		27.251	59	27.167
Summit	2 7	23.772	62	23.706	Summit.	2 22	23.773	62	23.706	Summit.	2 37	23.789	63	23.720	Summit.	2 52	23.790	62	23.723
Base ..		27.239	57	27.159	Base ...		27.240	58	27.158	Base ...		27.243	59	27.159	Base ..		27.250	59	27.166
Summit	2 8	23.771	62.5	23.704	Summit.	2 23	23.772	62	23.705	Summit.	2 38	23.789	63	23.720	Summit.	2 53	23.790	62	23.723
Base...		27.239	57	27.159	Base ...		27.240	58.5	27.157	Base ...		27.249	59	27.165	Base ...		27.252	59	27.168
Summit	2 9	23.773	63	23.705	Summit.	2 24	23.774	62	23.707	Summit.	2 39	23.789	63	23.720	Summit	2 54	23.792	62	23.725
Base ..		27.239	57	27.159	Base ...		27.240	59	27.156	Base ...		27.248	59.5	27.163	Base ...		27.250	59	27.166
Summit	2 10	23.773	63	23.705	Summit.	2 25	23.778	62	23.711	Summit.	2 40	23.789	62.5	23.721	Summit.	2 55	23.792	62	23.725
Base ..		27.239	57	27.159	Base ...		27.242	59	27.158	Base ...		27.249	59.5	27.164	Base ...		27.250	59	27.166
Summit	2 11	23.778	63	23.710	Summit.	2 26	23.779	62.5	23.711	Summit.	2 41	23.790	62.5	23.722	Summit.	2 56	23.792	62	23.725
Base ..		27.239	57	27.159	Base ...		27.241	59	27.157	Base ...		27.218	59.5	27.163	Base ...		27.250	59	27.166
Summit	2 12	23.781	62.5	23.714	Summit.	2 27	23.779	62.5	23.711	Summit.	2 42	23.794	62.5	23.726	Summit	2 57	23.792	62	23.725
Base ..		27.239	57	27.159	Base ...		27.241	59	27.157	Base ...		27.248	59.5	27.163	Base ...		27.252	59	27.168
Summit	2 13	23.780	62.5	23.713	Summit.	2 28	23.779	63	23.709	Summit	2 43	23.793	62.5	23.725	Summit	2 58	23.793	62	23.726
Base...		27.239	57	27.159	Base ..		27.240	59	27.156	Base ..		27.248	59	27.164	Base ...		27.252	59	27.168
Summit	2 14	23.782	62	23.716	Summit.	2 29	23.779	63	23.709	Summit.	2 44	23.795	62.5	23.727	Summit.	2 59	23.794	62	23.727
Base...		27.239	57	27.159	Base ...		27.240	59	27.156	Base ...		27.247	59	27.163	Base ...		27.251	59	27.167

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

Meteorological record for May 20, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Summit	2 0	24.035	48	23.998	Summit.	2 15	24.040	51	23.997	Summit	2 30	24.050	55	23.998	Summit.	2 45	24.060	57	24.004
Base...		27.488	59.5	27.402	Base ...		27.486	60	27.399	Base ...		27.487	61	27.398	Base ...		27.488	62	27.397
Summit	2 1	24.035	48	23.998	Summit.	2 16	24.040	52	23.995	Summit.	2 31	24.050	55	23.998	Summit.	2 46	24.055	57	23.999
Base...		27.488	60	27.401	Base ...		27.488	60	27.401	Base ...		27.485	61	27.396	Base ...		27.488	62	27.397
Summit	2 2	24.035	48	23.998	Summit.	2 17	24.042	53	23.995	Summit.	2 32	24.030	55	23.998	Summit.	2 47	24.055	58	23.997
Base...		27.488	60	27.401	Base ...		27.487	60.5	27.399	Base ...		27.487	61	27.398	Base ...		27.488	62	27.397
Summit	2 3	24.035	48	23.998	Summit.	2 18	24.042	53	23.995	Summit.	2 33	24.050	55	23.998	Summit.	2 48	24.055	58	23.997
Base...		27.488	60	27.401	Base ...		27.488	60.5	27.400	Base ...		27.487	61	27.398	Base ...		27.488	62	27.397
Summit	2 4	24.035	48	23.998	Summit	2 19	24.045	54	23.995	Summit.	2 34	24.050	55	23.998	Summit.	2 49	24.055	57.5	23.998
Base ..		27.488	60	27.401	Base ...		27.487	61	27.398	Base ...		27.487	61	27.398	Base ...		22.488	62	27.397
Summit	2 5	24.038	48	24.001	Summit.	2 20	24.045	54	23.995	Summit.	2 35	24.050	55.5	23.997	Summit.	2 50	24.055	57.5	23.998
Base...		27.488	60	27.401	Base ...		27.487	61	27.398	Base ...		27.487	61.5	27.397	Base ...		27.488	62	27.397
Summit	2 6	24.038	48	24.001	Summit.	2 21	24.048	54	23.998	Summit.	2 36	24.050	55.5	23.997	Summit.	2 51	24.058	57	24.002
Base ..		27.487	60	27.400	Base ...		27.487	61	27.398	Base ...		27.486	61.5	27.396	Base ...		27.488	62	27.397
Summit	2 7	24.038	48	24.001	Summit.	2 22	24.050	54	24.000	Summit.	2 37	24.050	56	23.996	Summit.	2 52	24.058	57	24.002
Base ..		27.487	60	27.400	Base ..		27.487	61	27.398	Base ...		27.488	61.5	27.398	Base ...		27.488	62	27.397
Summit	2 8	24.038	48.5	24.000	Summit.	2 23	24.050	54	24.000	Summit.	2 38	24.052	56	23.998	Summit.	2 53	24.060	57	24.004
Base ..		27.488	60	27.401	Base ...		27.485	61	27.396	Base ...		27.485	61.5	27.395	Base ...		27.487	62	27.396
Summit	2 9	24.038	48.5	24.000	Summit	2 24	24.050	54	24.000	Summit	2 39	24.055	56	24.001	Summit.	2 54	24.060	57	24.004
Base ..		27.488	60	27.401	Base ...		27.486	61	27.397	Base ...		27.486	61.5	27.396	Base ...		27.486	62	27.395
Summit	2 10	24.038	48.5	24.000	Summit.	2 25	24.050	55	23.998	Summit.	2 40	24.058	56.5	24.003	Summit.	2 55	24.060	57	24.004
Base ..		27.487	60	27.400	Base ...		27.486	61	27.397	Base ...		27.487	61.5	27.397	Base ...		27.483	62	27.392
Summit	2 11	24.040	49	24.001	Summit.	2 26	24.030	55	23.998	Summit.	2 41	24.058	56.5	24.003	Summit.	2 56	24.060	57	24.004
Base...		27.487	60	27.400	Base ...		27.485	61	27.396	Base ...		27.484	61.5	27.394	Base ...		27.484	62.5	27.392
Summit	2 12	24.040	49	24.001	Summit.	2 27	24.050	55	23.998	Summit.	2 42	24.058	56.5	24.003	Summit.	2 57	24.060	57	24.004
Base ..		27.485	60	27.398	Base ...		27.485	61	27.396	Base ...		27.487	61.5	27.397	Base ...		27.484	63	27.391
Summit	2 13	24.041	50	24.000	Summit.	2 28	24.050	55	23.998	Summit.	2 43	24.058	56.5	24.003	Summit.	2 58	24.058	56.5	24.003
Base ..		27.483	60	27.398	Base ...		27.487	61	27.398	Base ...		27.486	61.5	27.396	Base ...		27.483	63	27.390
Summit	2 14	24.040	50	23.999	Summit.	2 29	21.050	55	23.998	Summit.	2 44	24.060	57	24.004	Summit.	2 59	24.058	56.5	24.003
Base...		27.484	60	27.397	Base ...		27.487	61	27.398	Base ...		27.487	61.5	27.397	Base ...		27.483	63	27.390

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

Meteorological record for May 21, 1875.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					p. m.					p. m.					p. m.			
Summit	9 0	24.050	66	23.975	Summit.	9 15	24.046	65	23.973	Summit.	9 30	24.048	63	23.979	Summit	9 45	24.046	62.5	23.978
Base . .		27.490	60	27.403	Base . . .		27.492	61	27.402	Base . . .		27.491	61	27.401	Base . . .		27.490	60	27.403
Summit	9 1	24.048	66	23.973	Summit.	9 16	24.050	65	23.977	Summit.	9 31	24.048	63	23.979	Summit.	9 46	24.045	62	23.978
Base . .		27.490	60	27.403	Base . . .		27.492	61	27.402	Base . . .		27.491	61	27.401	Base . . .		27.490	60	27.403
Summit	9 2	24.048	66	23.973	Summit.	9 17	24.050	65	23.977	Summit.	9 32	24.048	63	23.979	Summit.	9 47	24.045	61.5	23.979
Base . .		27.491	60.5	27.403	Base . . .		27.491	61	27.402	Base . . .		27.401	61	27.401	Base . . .		27.490	60	27.403
Summit	9 3	24.048	66	23.973	Summit	9 18	24.049	65	23.976	Summit.	9 33	24.048	63	23.979	Summit	9 48	24.044	61.5	23.978
Base . .		27.491	60.5	27.403	Base . . .		27.491	61	27.401	Base . . .		27.491	61	27.401	Base . .		27.490	60	27.403
Summit	9 4	24.048	66	23.973	Summit.	9 19	24.050	64.5	23.978	Summit.	9 34	24.046	63	23.977	Summit	9 49	24.046	61.5	23.980
Base . .		27.491	61	27.401	Base . . .		27.491	61	27.401	Base . . .		27.491	61	27.401	Base . .		27.490	60	27.403
Summit	9 5	24.050	65	23.977	Summit.	9 20	24.050	64.5	23.978	Summit.	9 35	24.049	62.5	23.981	Summit.	9 50	24.044	61	23.979
Base . .		27.491	61	27.401	Base . . .		27.491	61	27.401	Base . . .		27.490	60.5	27.401	Base . . .		27.490	60	27.403
Summit	9 6	24.051	65	23.978	Summit.	9 21	24.045	64	23.974	Summit.	9 36	24.047	62.5	23.979	Summit.	9 51	24.044	61.5	23.978
Base . .		27.491	61	27.401	Base . . .		27.491	61	27.401	Base . . .		27.490	60.5	27.401	Base . . .		27.490	60	27.403
Summit	9 7	24.047	65	23.974	Summit.	9 22	24.048	64	23.977	Summit.	9 37	24.049	62.5	23.981	Summit.	9 52	24.044	61.5	23.978
Base . .		27.491	61	27.401	Base . . .		27.491	61	27.401	Base . . .		27.490	60.5	27.401	Base . . .		27.490	60	27.403
Summit	9 8	24.047	65	23.974	Summit.	9 23	24.048	64	23.977	Summit.	9 38	24.049	62.5	23.981	Summit	9 53	24.046	61.5	23.980
Base . .		27.492	61	27.402	Base . . .		27.491	61	27.401	Base . . .		27.490	60.5	27.401	Base . . .		27.490	60	27.403
Summit	9 9	24.050	64.5	23.978	Summit.	9 24	24.048	64	23.977	Summit.	9 39	24.049	62.5	23.981	Summit.	9 54	24.046	61.5	23.980
Base . .		27.492	61	27.402	Base . . .		27.491	61	27.401	Base . . .		27.490	60.5	27.401	Base . . .		27.489	59.5	27.403
Summit	9 10	24.049	64.5	23.977	Summit.	9 25	24.050	64	23.979	Summit	9 40	24.045	62.5	23.977	Summit.	9 55	24.040	61	23.975
Base . .		27.492	61	27.402	Base . . .		27.491	61	27.401	Base . . .		27.490	60.5	27.401	Base . . .		27.489	59.5	27.403
Summit	9 11	24.050	65	23.977	Summit.	9 26	24.050	64	23.979	Summit.	9 41	24.045	62.5	23.977	Summit.	9 56	24.041	61	23.976
Base . .		27.492	61	27.402	Base . . .		27.491	61	27.401	Base . . .		27.490	60.5	27.401	Base . . .		27.489	59.5	27.403
Summit	9 12	24.050	65	23.977	Summit	9 27	24.047	64	23.976	Summit.	9 42	24.045	62.5	23.977	Summit.	9 57	24.041	61	23.976
Base . .		27.492	61	27.402	Base . . .		27.491	61	27.401	Base . . .		27.490	60	27.403	Base . . .		27.489	59.5	27.403
Summit	9 13	24.050	65.5	23.976	Summit.	9 28	24.050	63.5	23.979	Summit.	9 43	24.043	62.5	23.975	Summit	9 58	24.040	61.5	23.974
Base . .		27.492	61	27.402	Base . . .		27.491	61	27.401	Base . . .		27.490	60	27.403	Base . . .		27.489	59.5	27.403
Summit	9 14	24.050	65.5	23.976	Summit.	9 29	24.050	63	23.981	Summit.	9 44	24.043	62.5	23.975	Summit.	9 59	24.040	61.5	23.974
Base . .		27.492	61	27.402	Base . . .		27.491	61	27.401	Base . . .		27.490	60	27.403	Base . . .		27.489	59.5	27.403

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

Meteorological record for May 22, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Summit	9 0	23.961	60	23.898	Summit.	9 15	23.962	62	23.895	Summit	9 30	23.970	63	23.901	Summit.	9 45	23.970	63	23.901
Base . .		27.389	60	27.302	Base . . .		27.389	60	27.302	Base . . .		27.379	59.5	27.293	Base . . .		27.376	60	27.289
Summit	9 1	23.961	60	23.898	Summit.	9 16	23.963	62	23.896	Summit.	9 31	23.970	63	23.901	Summit.	9 46	23.970	63	23.901
Base . .		27.389	60	27.302	Base . . .		27.388	60	27.302	Base . . .		27.379	59.5	27.293	Base . . .		27.376	60	27.289
Summit	9 2	23.960	60	23.897	Summit.	9 17	23.963	62	23.896	Summit.	9 32	23.970	63	23.901	Summit.	9 47	23.970	63	23.901
Base . .		27.389	60	27.302	Base . .		27.388	60	27.301	Base . . .		27.379	59.5	27.293	Base . . .		27.376	60	27.289
Summit	9 3	23.900	61	23.895	Summit.	9 18	23.963	62	23.896	Summit.	9 33	23.970	63	23.901	Summit.	9 48	23.965	64	23.904
Base .		27.389	60.5	27.301	Base . . .		27.388	60	27.301	Base . . .		27.379	59.5	27.293	Base . . .		27.379	60	27.292
Summit	9 4	23.961	61	23.896	Summit.	9 19	23.961	61.5	23.895	Summit.	9 34	23.970	63	23.901	Summit.	9 49	23.965	64	23.904
Base		27.389	61	27.299	Base . . .		27.388	60	27.301	Base . . .		27.379	59.5	27.293	Base . . .		27.379	60	27.292
Summit	9 5	23.961	61	23.896	Summit.	9 20	23.961	62	23.894	Summit.	9 35	23.970	63.5	23.900	Summit.	9 50	23.965	64	23.904
Base . .		27.389	61	27.299	Base . . .		27.388	60	27.301	Base . . .		27.379	59.5	27.293	Base . . .		27.379	60	27.292
Summit	9 6	23.961	61	23.896	Summit.	9 21	23.961	62	23.894	Summit.	9 36	23.970	63.5	23.900	Summit.	9 51	23.965	64	23.904
Base . .		27.389	61	27.299	Base . . .		27.388	60	27.301	Base . . .		27.376	59	27.291	Base . . .		27.379	60	27.292
Summit	9 7	23.962	60	23.899	Summit.	9 22	23.962	62.5	23.894	Summit.	9 37	23.970	63.5	23.900	Summit.	9 52	23.965	64	23.904
Base . .		27.389	61	27.299	Base . . .		27.380	60	27.293	Base . . .		27.376	59	27.291	Base . . .		27.379	60	27.292
Summit	9 8	23.962	60	23.899	Summit.	9 23	23.963	63	23.894	Summit.	9 38	23.970	62.5	23.900	Summit.	9 53	23.965	64	23.904
Base .		27.389	61	27.299	Base . . .		27.380	60	27.293	Base . . .		27.376	59.5	27.290	Base . . .		27.379	60	27.292
Summit	9 9	23.962	60	23.899	Summit.	9 24	23.970	63	23.901	Summit.	9 39	23.970	63.5	23.900	Summit.	9 54	23.965	64	23.904
Base		27.389	61	27.299	Base . . .		27.379	60	27.292	Base . . .		27.376	60	27.289	Base . . .		27.379	60	27.292
Summit	9 10	23.962	61	23.897	Summit.	9 25	23.970	63	23.901	Summit.	9 40	23.970	63.5	23.900	Summit.	9 55	23.965	64	23.904
Base .		27.389	61	27.209	Base . . .		27.380	60	27.293	Base . . .		27.377	60	27.290	Base . . .		27.379	60	27.292
Summit	9 11	23.962	61	23.897	Summit.	9 26	23.965	63	23.896	Summit.	9 41	23.965	63.5	23.895	Summit.	9 56	23.965	64	23.904
Base .		27.389	61	27.299	Base . .		27.380	60	27.293	Base . . .		27.377	60	27.290	Base . . .		27.378	60	27.291
Summit	9 12	23.962	61	23.897	Summit	9 27	23.965	63	23.896	Summit.	9 42	23.965	63.5	23.895	Summit.	9 57	23.965	64	23.904
Base		27.389	60.5	27.301	Base . . .		27.380	59.5	27.294	Base . . .		27.377	60	27.290	Base . . .		27.378	60	27.291
Summit	9 13	23.962	62	23.895	Summit	9 28	23.965	63	23.896	Summit.	9 43	23.970	63	23.901	Summit.	9 58	23.965	64	23.904
Base		27.389	60	27.302	Base . .		27.380	59.5	27.294	Base . . .		27.376	60	27.289	Base . . .		27.378	60	27.291
Summit	9 14	23.962	62	23.895	Summit.	9 29	23.970	63	23.901	Summit.	9 44	23.970	63	23.901	Summit.	9 59	23.965	64	23.904
Base .		27.389	60	27.302	Base . . .		27.380	59.5	27.294	Base . . .		27.376	60	27.289	Base . . .		27.378	60	27.291

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

Meteorological record for May 23, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Summit	9 0	23.854	65	23.781	Summit.	9 15	23.855	69	23.773	Summit.	9 30	23.855	71	23.769	Summit.	9 45	23.849	70	23.705
Base...		27.179	65	27.081	Base....		27.179	64.5	27.082	Base....		27.159	64	27.063	Base....		27.159	63.5	27.064
Summit	9 1	23.854	65	23.781	Summit.	9 16	23.855	70	23.771	Summit.	9 31	23.860	71.5	23.773	Summit.	9 46	23.850	70	23.706
Base...		27.179	65	27.081	Base....		27.179	64.5	27.082	Base....		27.159	64	27.063	Base....		27,159	63.5	27.064
Summit	9 2	23.850	65	23.777	Summit.	9 17	23.858	70.5	23.773	Summit.	9 32	23.853	70	23.760	Summit.	9 47	23.850	70	23.766
Base..		27.179	65	27.081	Base....		27.170	64.5	27.073	Base....		27.159	64	27.063	Base....		27.156	63	27.063
Summit	9 3	23.854	65	23.781	Summit.	9 18	23.858	71	23.772	Summit.	9 33	23.852	70.5	23.767	Summit.	9 48	23.850	70	23.766
Base...		27.179	65	27.081	Base....		27.170	64.5	27.073	Base....		27.159	64	27.063	Base....		27.156	63	27.063
Summit	9 4	23.850	65	23.777	Summit.	9 19	23.856	71	23.770	Summit.	9 34	23.855	71	23.769	Summit.	9 49	23.850	70	23.766
Base..		27.179	65	27.081	Base....		27.170	64.5	27.073	Base....		27.159	63.5	27.064	Base....		27.156	63	27.063
Summit	9 5	23.854	65.5	23.780	Summit.	9 20	23.855	71.5	23.768	Summit.	9 35	23.850	70.5	23.765	Summit.	9 50	23.850	70	23.766
Base..		27.179	65	27.081	Base....		27.169	64	27.072	Base....		27.159	63.5	27.064	Base....		27.156	63	27.063
Summit	9 6	23.850	65	23.777	Summit.	9 21	23.850	71.5	23.763	Summit.	9 36	23.850	70.5	23.765	Summit.	9 51	23.848	69.5	23.765
Base..		27.179	65	27.081	Base....		27.169	64	27.073	Base....		27.159	63.5	27.064	Base....		27.156	63	27.063
Summit	9 7	23.850	65.5	23.776	Summit.	9 22	23.852	71.5	23.765	Summit.	9 37	23.850	70.5	23.765	Summit.	9 52	23.848	69.5	23.765
Base..		27.179	65	27.081	Base....		27.169	64	27.073	Base....		27.159	63.5	27.064	Base....		27.150	63	27.057
Summit	9 8	23.850	65.5	23.776	Summit.	9 23	23.858	71.5	23.771	Summit.	9 38	23.850	70.5	23.765	Summit.	9 53	23.851	70	23.767
Base..		27.180	65	27.082	Base....		27.169	64	27.073	Base...		27.159	63.5	27.064	Base ...		27.150	63	27.057
Summit	9 9	23.850	66	23.775	Summit.	9 24	23.854	71	23.768	Summit.	8 39	23.853	70.5	23.768	Summit.	9 54	23.851	70	23.767
Base ..		27.180	65	27.082	Base ...		27.159	64	27.063	Base....		27.159	63.5	27.064	Base....		27.150	63	27.057
Summit	9 10	23.850	66.5	23.774	Summit.	9 25	23.855	71	23.769	Summit.	9 40	23.850	70	23.766	Summit.	9 55	23.851	70	23.767
Base...		27.180	65	27.082	Base....		27.159	64	27.063	Base....		27.159	63.5	27.064	Base....		27.150	63	27.057
Summit	9 11	23.854	67	23.776	Summit.	9 26	23.855	71	23.769	Summit.	9 41	23.850	70	23.766	Summit.	9 56	23.850	70	23.766
Base...		27.180	65	27.082	Base....		27.159	64	27.063	Base....		27.159	63.5	27.064	Base...		27.150	63	27.057
Summit	9 12	23.856	67.5	23.777	Summit	9 27	23.855	71	23.769	Summit.	9 42	23.849	70	23.765	Summit.	9 57	23.850	70	23.766
Base...		27.178	64.5	27.081	Base....		27.159	64	27.063	Base....		27.159	63.5	27.064	Base....		27.150	63	27.057
Summit	9 13	23.856	68	23.776	Summit.	9 28	23.855	71	23.769	Summit.	9 43	23.849	70	23.765	Summit.	9 58	23.848	69.5	23.766
Base...		27.178	64.5	27.081	Base....		27.159	64	27.063	Base....		27.159	63.5	27.064	Base....		27.150	63	27.057
Summit	9 14	23.854	68.5	23.773	Summit.	9 29	23.858	71	23.772	Summit.	9 44	23.849	70	23.765	Summit.	9 59	23.848	69.5	23.765
Base ..		27.178	64.5	27.081	Base....		27.159	64	27.063	Base....		27.159	63.5	27.064	Base....		27.150	63	27.057

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

Meteorological record for May 24, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Summit	9 0	23.580	62	23.513	Summit.	9 15	23.560	62.5	23.492	Summit.	9 30	23.555	63	23.486	Summit.	9 45	23.550	64	23.479
Base...		27.018	63	26.925	Base....		27.020	64.5	26.923	Base....		27.020	64	26.924	Base....		27.019	63.5	26.924
Summit	9 1	23.580	62	23.513	Summit.	9 16	23.555	62	23.488	Summit.	9 31	23.560	63	21.491	Summit.	9 46	23.550	64	23.479
Base...		27.018	63.5	26.924	Base....		27.020	64.5	26.923	Base....		27.020	64	26.924	Base....		27.019	63.5	26.924
Summit	9 2	23.570	62	23.503	Summit.	9 17	23.555	62	23.488	Summit.	9 32	23.560	63	23.491	Summit.	9 47	23.550	64	23.478
Base...		27.018	63.5	26.924	Base....		27.019	64	26.923	Base....		27.020	64	26.924	Base....		27.019	63.5	26.924
Summit	9 3	23.570	62	23.503	Summit.	9 18	23.560	62	23.493	Summit.	9 33	23.560	63.5	23.490	Summit.	9 48	23.550	64.5	23.478
Base...		27.018	63.5	26.924	Base....		27.019	64	26.923	Base....		27.020	64	26.924	Base....		27.019	63.5	26.924
Summit	9 4	23.560	62	23.493	Summit.	9 19	23.570	62.5	23.502	Summit.	9 34	23.560	63.5	23.490	Summit.	9 49	23.550	65	23.477
Base...		27.018	63.5	26.924	Base....		27.019	64	26.923	Base....		27.020	64	26.924	Base....		27.019	63.5	26.924
Summit	9 5	23.562	62	23.495	Summit.	9 20	23.570	62.5	23.502	Summit.	9 35	23.560	63.5	23.490	Summit.	9 50	23.555	65	23.482
Base...		27.018	64	26.922	Base....		27.019	64	26.923	Base....		27.020	64	26.924	Base....		27.019	63.5	26.924
Summit	9 6	23.565	62	23.498	Summit.	9 21	23.570	62.5	23.502	Summit.	9 36	23.560	63.5	23.490	Summit.	9 51	23.555	66	23.480
Base...		27.018	64	26.922	Base....		27.019	64	26.923	Base....		27.020	64	26.924	Base....		27.019	63.5	26.924
Summit	9 7	23.565	62	23.496	Summit.	9 22	23.570	62.5	23.502	Summit.	9 37	23.560	64	23.489	Summit	9 52	23.560	66	23.485
Base...		27.019	65	26.921	Base....		27.019	64	26.923	Base....		27.020	64	26.924	Base....		27.019	63	26.926
Summit	9 8	23.565	62	23.496	Summit.	9 23	23.565	63	23.496	Summit.	9 38	23.560	64	23.489	Summit.	9 53	23.560	66	23.485
Base...		27.019	65	26.921	Base....		27.019	64	26.923	Base....		27.020	64	26.924	Base....		27.019	63	26.926
Summit	9 9	23.565	62	23.498	Summit.	9 24	23.565	63	23.496	Summit.	9 39	23.550	64	23.479	Summit.	9 54	23.565	66	23.490
Base ..		27.019	65	26.921	Base....		27.019	64	26.923	Base....		27.020	64	26.924	Base....		27.019	63	26.926
Summit	9 10	23.563	62	23.496	Summit.	9 25	23.565	63	23.496	Summit.	9 40	23.550	64	23.479	Summit.	9 55	23.565	66	23.490
Base...		27.019	65	26.921	Base....		27.019	64	26.923	Base		27.020	64	26.924	Base....		27.019	63	26.926
Summit	9 11	23.563	62	21.496	Summit.	9 26	23.570	63	23.501	Summit.	9 41	23.550	64	23.479	Summit	9 56	23.565	67	23.487
Base...		27.019	65	26.921	Base....		27.019	64	26.923	Base....		27.020	64	26.924	Base....		27.019	63	26.926
Summit	9 12	23.563	62	23.496	Summit.	9 27	23.570	63	23.501	Summit.	9 42	23.550	64	23.479	Summit.	9 57	23.565	67	23.487
Base...		27.020	64.5	26.923	Base....		27.019	64	26.923	Base....		27.020	63.5	26.925	Base....		27.019	63	26.926
Summit	9 13	23.560	62	23.493	Summit.	9 28	23.565	63	23.496	Summit.	9 43	23.550	64	23.479	Summit.	9 58	23.565	67	23.487
Base...		27.020	64.5	26.923	Base....		27.019	64	26.923	Base....		27.020	63.5	26.925	Base....		27.019	63	26.926
Summit	9 14	23.560	62.5	23.492	Summit.	9 29	23.560	63	23.491	Summit.	9 44	23.550	64	23.479	Summit.	9 59	23.565	67	23.487
Base...		27.020	64.5	26.923	Base....		27.020	64	26.924	Base....		27.020	63.5	26.925	Base....		27.019	63	26.926

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

Meteorological record for May 25, 1873.

(Minute barometical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Summit	9 0	24.001	73	23.911	Summit.	9 15	24.007	73.5	23.916	Summit.	9 30	24.011	72	23.923	Summit.	9 45	24.007	71.5	23.920
Base...		27.349	65	27.250	Base....		27.349	65	27.250	Base....		27.349	64.5	27.251	Base....		27.349	63.5	27.253
Summit	9 1	24.001	73	23.911	Summit.	9 16	24.007	73.5	23.916	Summit.	9 31	24.011	72	23.923	Summit.	9 46	24.007	71.5	23.920
Base...		27.349	65	27.250	Base....		27.349	65	27.250	Base....		27.349	64	27.252	Base....		27.349	63	27.255
Summit	9 2	24.003	73	23.913	Summit.	9 17	24.010	73.5	23.919	Summit.	9 32	24.011	72.5	23.922	Summit.	9 47	24.010	71	23.924
Base...		27.349	65	27.250	Base....		27.349	65	27.250	Base....		27.349	64	27.252	Base....		27.349	63	27.255
Summit	9 3	24.001	73	23.911	Summit.	9 18	24.010	73	23.920	Summit.	9 33	24.011	72.5	23.922	Summit.	9 48	24.006	71	23.920
Base...		27.349	65	27.250	Base....		27.349	64.5	27.251	Base....		27.349	64	27.252	Base....		27.349	63	27.255
Summit	9 4	24.001	73	23.911	Summit.	9 19	24.009	73	23.919	Summit.	9 34	24.013	72.5	23.924	Summit.	9 49	24.009	71	23.923
Base...		27.349	65	27.250	Base....		27.349	64.5	27.251	Base....		27.349	64	27.252	Base....		27.349	63	27.255
Summit	9 5	24.000	73	23.910	Summit.	9 20	24.010	73	23.920	Summit.	9 35	24.013	72.5	23.924	Summit.	9 50	24.009	71	23.923
Base...		27.349	65	27.250	Base...		27.349	64.5	27.251	Base....		27.349	64	27.252	Base....		27.349	63	27.255
Summit	9 6	24.000	73	23.910	Summit.	9 21	24.008	73	23.918	Summit.	9 36	24.010	72.5	23.921	Summit.	9 51	24.009	71	23.923
Base...		27.349	65	27.250	Base....		27.349	64.5	27.251	Base....		27.349	64	27.252	Base....		27.349	63	27.255
Summit	9 7	24.002	73	23.912	Summit.	9 22	24.008	73	23.918	Summit.	9 37	24.012	72.5	23.923	Summit.	9 52	24.000	71.5	23.922
Base...		27.349	65	27.250	Base....		27.349	64.5	27.251	Base....		27.349	64	27.252	Base....		27.349	63	27.255
Summit	9 8	24.002	73	23.912	Summit.	9 23	24.008	73	23.918	Summit.	9 38	24.009	72.5	23.920	Summit.	9 53	24.009	71.5	23.922
Base...		27.349	65	27.250	Base....		27.349	64.5	27.251	Base....		27.349	63.5	27.253	Base....		27.349	63	27.255
Summit	9 9	24.002	73	23.912	Summit.	9 24	24.008	73	23.918	Summit.	9 39	24.013	72.5	23.924	Summit.	9 54	24.009	72.5	23.920
Base...		27.349	65	27.250	Base....		27.349	64.5	27.251	Base ...		27.349	63.5	27.253	Base....		27.349	63	27.255
Summit	9 10	24.006	73	23.916	Summit.	9 25	24.011	72.5	23.922	Summit.	9 40	24.013	72.5	23.924	Summit.	9 55	24.011	72.5	23.922
Base...		27.349	65	27.250	Base....		27.349	64.5	27.251	Base....		27.349	63.5	27.253	Base....		27.350	63	27.256
Summit	9 11	24.003	73	23.913	Summit.	9 26	24.010	72.5	23.921	Summit.	9 41	24.011	72.5	23.922	Summit.	9 56	24.011	72.5	23.922
Base...		27.349	65	27.250	Base....		27.349	64.5	27.251	Base....		27.349	63.5	27.253	Base....		27.350	63	27.256
Summit	9 12	24.007	73	23.917	Summit.	9 27	24.010	72.5	23.921	Summit.	9 42	24.006	72	23.918	Summit.	9 57	24.014	72.5	23.925
Base...		27.349	65	27.250	Base....		27.349	64.5	27.251	Base....		27.349	63.5	27.253	Base....		27.350	63	27.256
Summit	9 13	24.007	73.5	23.916	Summit.	9 28	24.011	72.5	23.922	Summit.	9 43	24.006	72	23.918	Summit.	9 58	24.014	72.5	23.925
Base...		27.349	65	27.250	Base....		27.349	64.5	27.251	Base....		27.349	63.5	27.253	Base....		27.350	63	27.256
Summit	9 14	24.007	73.5	23.916	Summit.	9 29	24.011	72	23.923	Summit.	9 44	24.005	72	23.917	Summit.	9 59	24.015	73.5	23.924
Base...		27.349	65	27.250	Base....		27.349	64.5	27.251	Base....		27.349	63.5	27.253	Base....		27.350	63	27.256

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

Meteorological record for May 26, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Summit	9 0	24.035	68	23.955	Summit.	9 15	24.035	70	23.951	Summit.	9 30	24.040	71.5	23.953	Summit.	9 45	24.040	72	23.952
Base...		27.370	67	27.266	Base....		27.370	66.5	27.267	Base....		27.370	66	27.269	Base....		27.371	65	27.272
Summit	9 1	24.035	68	23.955	Summit.	9 16	24.035	70.5	23.950	Summit.	9 31	24.040	71.5	23.953	Summit.	9 46	24.040	72	23.952
Base...		27.370	67	27.266	Base....		27.370	66.5	27.267	Base....		27.370	66	27.269	Base....		27.371	65	27.272
Summit	9 2	24.035	68	23.955	Summit.	9 17	24.035	70.5	23.950	Summit.	9 32	24.040	71.5	23.953	Summit.	9 47	24.040	72	23.952
Base .		27.370	67	27.266	Base....		27.370	66	27.269	Base....		27.370	66	27.269	Base....		27.371	65	27.272
Summit	9 3	24.035	68	23.955	Summit.	9 18	24.035	70.5	23.950	Summit.	9 33	24.035	71.5	23.948	Summit.	9 48	24.040	72	23.952
Base...		27.370	67	27.266	Base....		27.370	66	27.269	Base....		27.370	66	27.269	Base....		27.371	65	27.272
Summit	9 4	24.032	68.5	23.951	Summit.	9 19	24.035	71	23.949	Summit.	9 34	24.035	71.5	23.948	Summit.	9 49	24.040	72	23.952
Base...		27.370	67	27.266	Base....		27.370	66	27.269	Base....		27.370	66	27.269	Base....		27.371	65	27.272
Summit	9 5	24.032	68.5	23.951	Summit.	9 20	24.035	71	23.949	Summit.	9 35	24.035	72	23.948	Summit	9 50	24.040	72	23.952
Base ..		27 370	67	27.266	Base....		27.370	66	27.269	Base....		27.371	66	27.270	Base....		27.371	65	27.272
Summit	9 6	24.030	69	23.948	Summit.	9 21	24.035	71	23.949	Summit.	9 36	24.035	72	23.947	Summit.	9 51	24.040	72	23.952
Base ..		27.370	67	27.266	Base....		27.370	66	27.269	Base...		27.371	66	27.270	Base....		27.371	65	27.272
Summit	9 7	24.032	69	23.948	Summit	9 22	24.035	71	23.949	Summit.	9 37	24.035	72	23.947	Summit.	9 52	24.040	72	23.952
Base ..		27.370	67	27.266	Base....		27.370	66	27.269	Base....		27.371	65.5	27.271	Base....		27.371	65	27.272
Summit	9 8	24.032	69	23.948	Summit.	9 23	24.035	71	23.949	Summit.	9 38	24.035	72	23.947	Summit.	9 53	24.040	72	23.952
Base ..		27.370	67	27.266	Base....		27.370	66	27.269	Base....		27.371	65.5	27.271	Base....		27.370	65	27.271
Summit	9 9	24.032	69	23.948	Summit.	9 24	24.035	71	23.949	Summit.	9 39	24.035	72	23.947	Summit.	9 54	24.035	72	23.947
Base..		27.370	66.5	27.267	Base....		27.370	66	27.269	Base....		27.371	65.5	27.271	Base....		27.370	65	27.271
Summit	9 10	24.035	69.5	23.952	Summit.	9 25	24.035	71	23.949	Summit.	9 40	24.036	72	23.948	Summit.	9 55	24.035	72	23.947
Base ..		27.370	66.5	27.267	Base....		27.370	66	27.269	Base....		27.371	65.5	27.271	Base....		27.370	65	27.271
Summit	9 11	24.035	69.5	23.952	Summit.	9 26	24.033	71	23.949	Summit.	9 41	24.036	72	23.948	Summit.	9 56	24.035	72	23.947
Base .		27.370	66.5	27.267	Base....		27.370	66	27.269	Base....		27.371	65.5	27.271	Base....		27.370	65	27.271
Summit	9 12	24.035	70	23.951	Summit.	9 27	24.036	71.5	23.949	Summit.	9 42	24.036	72	23.948	Summit.	9 57	24.032	72	23.944
Base...		27.370	66.5	27.267	Base....		27.370	66	27.269	Base....		27.371	65	27.272	Base....		27.370	65	27.271
Summit	9 13	24.035	70	23.951	Summit.	9 28	24.036	71.5	23.949	Summit.	9 43	24.040	72	23.952	Summit.	9 58	24.032	72	23.944
Base...		27.370	66.5	27.267	Base....		27.370	66	27.269	Base....		27.371	65	27.272	Base....		27.370	64.5	27.272
Summit	9 14	24.035	70	23.951	Summit.	9 29	24.036	71.5	23.949	Summit.	9 44	24.040	72	23.952	Summit.	9 59	24.032	72	23.944
Base...		27.370	66.5	27.267	Base....		27.370	66	27.269	Base....		27.371	65	27.272	Base....		27.370	64.5	27.272

NOTE.—Elevation of barometer at summit above sea-level, 6.285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

Meteorological record for May 27, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Summit	9 0	23.874	67	23.796	Summit	9 15	23.872	69	23.790	Summit.	9 30	23.869	68.5	23.788	Summit.	9 45	23.869	68.5	23.788
Base ...		27.200	70	27.090	Base....		27.200	71	27.088	Base....		27.200	71	27.088	Base....		27.199	70	27.089
Summit	9 1	23.874	67	23.796	Summit.	9 16	23.872	69	23.790	Summit	9 31	23.871	68.5	23.790	Summit.	9 46	23.872	69	23.790
Base...		27.200	70	27.090	Base....		27.200	71	27.088	Base....		27.200	70.5	27.089	Base....		27.199	70	27.089
Summit	9 2	23.872	67.5	23.793	Summit.	9 17	23.871	69	23.789	Summit	9 32	23.871	68.5	23.790	Summit.	9 47	23.872	69	23.790
Base ..		27.200	70.5	27.089	Base....		27.200	71	27.088	Base....		27.200	70.5	27.089	Base....		27.199	70	27.089
Summit	9 3	23.872	67.5	23.793	Summit	9 18	23.871	69	23.789	Summit	9 33	23.869	68.5	23.788	Summit.	9 48	23.873	69	23.790
Base...		27.200	71	27.088	Base...		27.200	71	27.088	Base....		27.200	70.5	27.089	Base....		27.199	70	27.089
Summit	9 4	23.872	67.5	23.793	Summit	9 19	23.871	69	23.789	Summit.	9 34	23.869	68	23.789	Summit.	9 49	23.873	69	23.790
Base ..		27.200	71	27.088	Base....		27.200	71	27.088	Base....		27.200	70.5	27.089	Base....		27.199	70	27.089
Summit	9 5	23.872	67.5	23.793	Summit.	9 20	23.870	69	23.788	Summit	9 35	23.868	68	23.788	Summit.	9 50	23.873	69	23.790
Base...		27.200	71	27.088	Base ...		27.200	71	27.088	Base....		27.200	70.5	27.089	Base....		27.199	70	27.089
Summit	9 6	23.873	68	23.793	Summit.	9 21	23.870	68.5	23.789	Summit.	9 36	23.868	68	23.788	Summit.	9 51	23.873	69.5	23.790
Base...		27.200	71	27.088	Base....		27.200	71	27.088	Base....		27.200	70	27.090	Base....		27.199	70	27.089
Summit	9 7	23.873	68	83.793	Summit	9 22	23.870	69	23.788	Summit.	9 37	23.868	68	23.788	Summit.	9 52	23.870	69.5	23.790
Base...		27.200	71	27.088	Base....		27.200	71	27.088	Base....		27.200	70	27.090	Base....		27.199	70	27.089
Summit	9 8	23.872	68	23.792	Summit.	9 23	23.870	69	23.788	Summit.	9 38	23.868	68	23.788	Summit.	9 53	23.874	69.5	23.791
Base...		27.200	71	27.088	Base....		27.200	71	27.088	Base....		27.200	70	27.090	Base....		27.199	70	27.089
Summit	9 9	23.872	68	23.792	Summit.	9 24	23.870	69	23.788	Summit.	9 39	23.868	68	23.788	Summit.	9 54	23.874	69.5	23.791
Base...		27.200	71	27.088	Base....		27.200	71	27.088	Base....		27.200	70	27.090	Base....		27.199	70	27.089
Summit	9 10	23.873	68	23.793	Summit.	9 25	23.870	69	23.788	Summit.	9 40	23.870	68.5	23.789	Summit.	9 55	23.872	69.5	23.789
Base...		27.200	71	27.088	Base....		27.200	71	27.088	Base....		27.200	70	27.090	Base....		27.199	70	27.089
Summit	9 11	23.873	68	23.793	Summit.	9 26	23.870	69	23.788	Summit.	9 41	23.868	68.5	23.787	Summit.	9 56	23.870	69.5	23.787
Base...		27.200	71	27.088	Base....		27.200	71	27.088	Base....		27.200	70	27.090	Base....		27.199	70	27.089
Summit	9 12	23.873	68	23.793	Summit.	9 27	23.870	69	23.788	Summit.	9 42	23.873	69	23.791	Summit.	9 57	23.871	69.5	23.788
Base...		27.200	71	27.088	Base....		27.200	71	27.088	Base....		27.200	70	27.090	Base....		27.199	69.5	27.090
Summit	9 13	23.872	68	23.792	Summit.	9 28	23.870	69	23.788	Summit.	9 43	23.870	69	23.788	Summit.	9 58	23.875	70	23.791
Base...		27.200	71	27.088	Base....		27.200	71	27.088	Base....		27.200	70	27.090	Base....		27.199	69.5	27.090
Summit	9 14	23.872	68	23.792	Summit.	9 29	23.870	68.5	23.789	Summit.	9 44	23.870	69	23.788	Summit.	9 50	23.875	70	23.791
Base...		27.200	71	27.088	Base....		27.200	71	27.088	Base....		27.199	70	27.089	Base....		27.199	69.5	27.090

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

Meteorological record for May 28, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Summit	9 0	23.710	68	23.632	Summit.	9 15	23.710	69.5	23.629	Summit.	9 30	23.715	70	23.633	Summit	9 45	23.723	70	23.641
Base...		27.138	66.5	27.037	Base....		27.140	66	27.041	Base....		27.139	66	27.040	Base....		27.139	66	27.040
Summit	9 1	23.700	69	23.620	Summit.	9 16	23 705	70	23.623	Summit.	9 31	23.725	70	23.643	Summit.	9 46	23.720	70	23.639
Base...		27.138	66.5	27 037	Base....		27.140	66	27.041	Base....		27.139	66	27.040	Base....		27.139	65.5	27.041
Summit	9 2	23.710	69	28.630	Summit.	9 17	23.710	70	23.628	Summit	9 32	23.725	70	23.643	Summit	9 47	23.720	70	23.638
Base...		27.138	66.5	27.037	Base....		27.140	66	27.041	Base....		27.139	66	27.040	Base....		27.139	65.5	27.041
Summit	9 3	23.710	69	23.630	Summit.	9 18	23.710	70	23.628	Summit.	9 33	23.725	70	23.643	Summit	9 48	23.720	70	23.638
Base ..		27.138	66.5	27.037	Base....		27.140	66	27.041	Base....		27.139	66	27.040	Base....		27.139	65.5	27.041
Summit	9 4	23.710	69.5	23.629	Summit.	9 19	23.710	70	23.628	Summit.	9 34	23.725	70	23.643	Summit	9 49	23.715	70	23.633
Base ..		27.138	66.5	27.037	Base....		27.139	66	27.040	Base....		27.139	66	27.040	Base....		27.139	65.5	27.041
Summit	9 5	23.710	69.5	23.629	Summit.	9 20	23.710	70	23.628	Summit.	9 35	23.725	70	23.643	Summit	9 50	23.715	70	23.633
Base...		27.138	66.5	27.037	Base....		27.139	66	27.040	Base....		27.139	66	27.040	Base...		27.139	65.5	27.041
Summit	9 6	23.710	69.5	23.629	Summit.	9 21	23.710	70	23.628	Summit.	9 36	23.725	70	23.643	Summit.	9 51	23.720	69.5	23.639
Base ..		27.138	66	27.039	Base....		27.139	66	27.040	Base....		27.139	66	27.040	Base....		27.139	65.5	27.041
Summit	9 7	23.705	70	23.623	Summit.	9 22	23.710	70	23.628	Summit.	9 37	26.725	70	23.643	Summit	9 52	23.720	69.5	23.639
Base...		27.138	66	27.039	Base....		27.139	66	27.040	Base....		27.139	66	27.040	Base....		27.139	65.5	27.041
Summit	9 8	23.710	70	23.628	Summit.	9 23	23.710	70	23.628	Summit.	9 38	23.725	70	23.643	Summit.	9 53	23.720	69.5	23.639
Base...		27.138	66	27.039	Base....		27.139	66	27.040	Base....		27.139	66	27 040	Base....		27.139	65.5	27.041
Summit	9 9	23.710	70	23.628	Summit.	9 24	23.720	70	23.638	Summit.	9 39	23.725	70	23.643	Summit.	9 54	23.720	69.5	23.639
Base...		27.138	66	27.039	Base....		27.139	66	27.040	Base....		27.139	66	27.040	Base....		27.139	65.5	27.041
Summit	9 10	23.705	70	23.623	Summit	9 25	23.720	70	23.638	Summit.	9 40	23.725	70	23.643	Summit.	9 55	23.720	69.5	23.639
Base...		27.140	66	27.041	Base....		27.139	66	27.040	Base....		27.139	66	27.040	Base....		27.139	65.5	27.041
Summit	9 11	23.705	70	23.623	Summit	9 26	23.715	70	23.633	Summit.	9 41	23.725	70	33.643	Summit.	9 56	23.720	69.5	23.639
Base...		27.140	66	27.041	Base....		27.139	66	27.040	Base....		27.139	66	27.040	Base....		27.139	65.5	27.041
Summit	9 12	23.710	69.5	23.629	Summit.	9 27	23.720	70	23.638	Summit.	9 42	23.725	70	23.643	Summit.	9 57	23.720	69.5	23.639
Base...		27.140	66	27.041	Base....		27.139	66	27.040	Base....		27.139	66	27.040	Base....		27.139	65.5	27.041
Summit	9 13	23.710	69.5	23.629	Summit.	9 28	23.720	70	23.638	Summit.	9 43	23.725	70	23.643	Summit.	9 53	23.720	69.5	23.639
Base...		27.140	66	27.041	Base....		27.139	66	27.040	Base....		27.139	66	27.040	Base....		27.139	65.5	27.041
Summit	9 14	23.705	69.5	23.624	Summit.	9 29	23.720	70	23.638	Summit.	9 44	28.725	70	23.643	Summit.	9 59	23.720	69.5	23.639
Base...		27.140	66	27.041	Base....		27.139	66	27.040	Base....		27.139	66	27.040	Base....		27.139	65.5	27.041

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Summit	9 0	23.865	67	23.787	Summit.	9 15	23.870	68.5	23.789	Summit.	9 30	23.870	69	23.788	Summit.	9 45	23.870	68.5	23.789
Base...		27.226	63	27.133	Base....		27.218	62	27.127	Base....		27.212	61.5	27.122	Base....		27.208	61	27.119
Summit	9 1	23.865	67.5	23.786	Summit.	9 16	23.870	68	23.790	Summit.	9 31	23.870	69	23.788	Summit.	9 46	23.870	68.5	23.789
Base...		27.226	63	27.133	Base....		27.218	61.5	27.128	Base....		27.212	61.5	27.122	Base....		27.206	61	27.117
Summit	9 2	23.865	67.5	23.786	Summit.	9 17	23.870	68	23.790	Summit.	9 32	23.870	69	23.788	Summit.	9 47	23.870	68.5	23.789
Base...		27.223	63	27.130	Base....		27.215	61.5	27.125	Base....		27.210	61.5	27.120	Base....		27.204	61	27.115
Summit	9 3	23.865	67.5	23.786	Summit.	9 18	23.870	68	23.790	Summit.	9 33	23.870	69	23.788	Summit.	9 48	23.870	68.5	23.789
Base...		27.223	63.5	27.129	Base....		27.216	61.5	27.126	Base....		27.210	61.5	27.120	Base....		27.205	61	27.116
Summit	9 4	23.865	68	23.785	Summit.	9 19	23.870	68	23.790	Summit.	9 34	23.870	69	23.788	Summit.	9 49	23.870	68	23.790
Base...		27.223	63.5	27.129	Base....		27.217	61.5	27.127	Base....		27.210	61.5	27.120	Base....		27.205	61	27.116
Summit	9 5	23.865	68	23.785	Summit.	9 20	23.870	68	23.790	Summit.	9 35	23.870	69	23.788	Summit.	9 50	23.870	68	23.790
Base...		27.222	63.5	27.128	Base....		27.217	61.5	27.127	Base....		27.209	61.5	27.119	Base....		27.207	61	27.118
Summit	9 6	23.870	68	23.790	Summit.	9 21	23.870	68	23.790	Summit.	9 36	23.870	69	23.788	Summit.	9 51	23.870	68	23.790
Base...		27.222	63.5	27.128	Base....		27.214	61.5	27.124	Base....		27.209	61.5	27.119	Base....		27.207	61	27.118
Summit	9 7	23.870	68	23.790	Summit.	9 22	23.870	68	23.790	Summit.	9 37	23.870	69	23.788	Summit.	9 52	23.870	68	23.790
Base...		27.225	63.5	27.131	Base....		27.215	61.5	27.125	Base....		27.209	61.5	27.119	Base....		27.205	61	27.116
Summit	9 8	23.870	68	23.790	Summit.	9 23	23.870	68.5	23.789	Summit.	9 38	23.870	69	23.788	Summit.	9 53	23.865	68	23.785
Base ..		27.221	63	27.128	Base....		27.217	61.5	27.127	Base....		27.209	61	27.120	Base....		27.203	61	27.114
Summit	9 9	23.870	68.5	23.789	Summit.	9 24	23.870	68.5	23.789	Summit.	9 39	23.870	69	23.788	Summit.	9 54	23.865	67.5	23.786
Base...		27.221	63	27.128	Base....		27.215	62	27.124	Base....		27.210	61	27.121	Base....		27.207	61	27.118
Summit	9 10	23.870	68.5	23.789	Summit.	9 25	23.870	68.5	23.789	Summit.	9 40	23.870	69	23.788	Summit.	9 55	23.865	67.5	23.786
Base...		27.220	63	27.127	Base....		27.214	62	27.123	Base....		27.210	61	27.121	Base....		27.203	61	27.114
Summit	9 11	23.870	68.5	23.789	Summit.	9 26	23.870	68.5	23.789	Summit.	9 41	23.870	69	23.788	Summit.	9 56	23.865	67.5	23.786
Base...		27.220	62.5	27.128	Base....		27.213	61.5	27.123	Base....		27.209	61	27.120	Base....		27.203	61	27.114
Summit	9 12	23.870	68.5	23.789	Summit.	9 27	23.870	68.5	23.789	Summit.	9 42	23.870	69	23.788	Summit.	9 57	23.865	67	23.787
Base...		27.220	62	27.129	Base....		27.213	61.5	27.123	Base....		27.208	61	27.119	Base....		27.202	61	27.113
Summit	9 13	23.870	68.5	23.789	Summit.	9 28	23.870	69	23.788	Summit.	9 43	23.870	68.5	23.789	Summit.	9 58	23.865	67	23.787
Base...		27.220	62	27.129	Base....		27.213	61.5	27.123	Base....		27.207	61	27.118	Base....		27.202	61	27.113
Summit	9 14	23.870	68.5	23.789	Summit.	9 29	23.870	69	23.788	Summit.	9 44	23.870	68.5	23.789	Summit.	9 59	23.865	67	23.787
Base...		27.219	62	27.128	Base....		27.212	61.5	27.122	Base....		27.208	61	27.119	Base....		27.202	61	27.113

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

Meteorological record for May 30, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Summit	9 0	23.880	66	23.805	Summit.	9 15	23.890	67.5	23.811	Summit.	9 30	23.895	68	23.815	Summit.	9 45	23.905	73	23.815
Base...		27.436	56	27.358	Base....		27.438	58	27.355	Base....		27.441	58	27.358	Base....		27.448	57.5	27.366
Summit	9 1	23.880	66.5	23.804	Summit	9 16	23.890	67.5	23.811	Summit.	9 31	23.895	68	23.815	Summit.	9 46	23.905	73	23.815
Base...		27.436	57	27.356	Base....		27.439	58	27.356	Base....		27.442	58	27.359	Base....		27.448	57.5	27.366
Summit	9 2	23.880	66.5	23.804	Summit	9 17	23.890	66	23.815	Summit.	9 32	23.895	69	23.813	Summit.	9 47	23.905	73	23.815
Base...		27.438	57.5	27.357	Base....		27.440	58	27.357	Base....		27.442	58	27.359	Base....		27.449	57	27.368
Summit	9 3	23.885	67	23.807	Summit.	9 18	23.890	66	23.815	Summit.	9 33	23.900	70	23.816	Summit	9 48	23.905	73	23.815
Base...		27.437	58	27.354	Base....		27.439	58	27.356	Base....		27.442	58	27.359	Base....		27.449	57	27.368
Summit	9 4	23.885	67	23.807	Summit.	9 19	23.890	66	23.815	Summit.	9 34	23.900	70	23.816	Summit.	9 48	23.905	73	23.815
Base...		27.439	58	27.356	Base....		27.440	58	27.357	Base....		27.443	58	27.360	Base....		27.449	57	27.368
Summit	9 5	23.885	67	23.807	Summit.	9 20	24.890	66	23.815	Summit	9 35	23.900	70	23.816	Summit.	9 50	23.905	72	23.817
Base...		27.439	58	27.355	Base....		27.440	58	27.357	Base....		27.443	57.5	27.360	Base....		27.449	57	27.368
Summit	9 6	23.883	67.5	23.804	Summit.	9 21	23.890	66	23.815	Summit.	9 36	23.900	70	23.816	Summit.	9 51	23.905	72	23.817
Base...		27.436	58	27.353	Base....		27.440	58	27.357	Base....		27.433	57.5	27.361	Base....		27.449	57	27.368
Summit	9 7	23.885	68	23.805	Summit.	9 22	23.890	66	23.815	Summit.	9 37	23.900	70	23.816	Summit.	9 52	23.905	72	23.817
Base...		27.438	58	27.355	Base....		27.442	58	27.359	Base ...		27.446	57.5	27.364	Base....		27.449	57	27.368
Summit	9 8	23.885	68	23.805	Summit.	9 23	23.890	66	23.815	Summit	9 38	23.900	72	23.812	Summit.	9 53	23.905	72	23.817
Base...		27.438	58	27.355	Base....		27.441	58	27.358	Base....		27.447	57.5	27.365	Base....		27.450	57	27.369
Summit	9 9	23.885	68	23.805	Summit.	9 24	23.890	66	23.815	Summit.	9 39	23.900	72	23.812	Summit.	9 54	23.905	72	23.817
Base...		27.438	58	27.355	Base....		27.441	58	27.358	Base....		27.448	57.5	27.366	Base....		27.450	57	27.369
Summit	9 10	23.885	68	23.805	Summit.	9 25	23.890	66	23.815	Summit.	9 40	23.900	72	23.812	Summit	9 55	23.905	72	23.817
Base...		27.438	58	27.355	Base....		27.442	58	27.359	Base....		27.446	57.5	27.364	Base....		27.450	57	27.369
Summit	9 11	23.890	67.5	23.811	Summit	9 26	23.895	68	23.815	Summit.	9 41	23.900	72	23.812	Summit.	9 56	23.905	72	23.817
Base ..		27.440	58	27.357	Base....		27.442	58	27.359	Base....		27.447	57.5	27.365	Base....		27.450	57	27.369
Summit	9 12	23.890	67.5	23.811	Summit.	9 27	23.895	68	23.815	Summit.	9 42	23.900	72	23.812	Summit.	9 57	23.905	72	23.817
Base ..		27.439	58	27.356	Base....		27.441	58	27.358	Base....		27.448	57.5	27.366	Base....		27.453	57	27.372
Summit	9 13	23.890	67.5	23.811	Summit.	9 28	23.895	68	23.815	Summit	9 43	23.905	72	23.817	Summit.	9 58	23.905	72	23.817
Base...		27.439	58	27.356	Base....		27.441	58	27.358	Base....		27.446	57.5	27.364	Base....		27.458	57	27.377
Summit	9 14	23.890	67.5	23.811	Summit.	9 29	23.895	68	23.815	Summit.	9 44	23.905	72	23.817	Summit.	9 59	23.905	72	23.817
Base...		27.439	58	27.356	Base....		27.442	58	27.359	Base....		27.448	57.5	27.366	Base....		27.459	57	27.378

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

Meteorolog oal record for May 31, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Summit	9 0	24.080	63	24.011	Summit.	9 15	24.080	61	24.015	Summit.	9 30	24.080	60	24.017	Summit.	9 45	24.075	60	24.012
Base...		27.551	60	27.464	Base....		27.551	60	27.464	Base....		27.549	60	27.462	Base....		27.550	59.5	27.464
Summit	9 1	24.080	63	24.011	Summit.	9 16	24.080	61	24.015	Summit.	9 31	24.080	60	24.017	Summit.	9 46	24.075	60	24.012
Base ..		27.551	60	27.464	Base....		27.552	60	27.465	Base....		27.549	60	27.462	Base....		27.549	59.5	27.463
Summit	9 2	24.080	63	24.011	Summit.	9 17	24.080	61	24.015	Summit	9 32	24.080	60	24.017	Summit.	9 47	24.075	60	24.012
Base...		27.550	60	27.463	Base....		27.553	60	27.466	Base....		27.549	60	27.462	Base....		27.548	59.5	27.462
Summit	9 3	24.080	63	24.011	Summit.	9 18	24.080	61	24.015	Summit.	9 33	24.080	60	24.017	Summit.	9 48	24.075	60	24.012
Base...		27.552	60	27.465	Base....		27.551	60	27.464	Base....		27.550	60	27.463	Base....		27.549	59.5	27.463
Summit	9 4	24.080	63	24.011	Summit.	9 19	24.080	61	24.015	Summit.	9 34	24.080	60	24.017	Summit.	9 49	24.075	60	24.012
Base...		27.552	60	27.465	Base....		27.550	60	27.463	Base....		27.550	60	27.463	Base....		27.548	59.5	27.462
Summit	9 5	24.080	63	24.011	Summit.	9 20	24.080	61	24.015	Summit.	9 35	24.080	60	24.017	Summit.	9 50	24.075	60	24.012
Base...		27.553	60	27.466	Base....		27.550	60	27.463	Base....		27.549	60	27.462	Base....		27.548	59.5	27.462
Summit	9 6	24.080	62	24.013	Summit.	9 21	24.080	61	24.015	Summit.	9 36	24.080	60	24.017	Summit.	9 51	24.075	60	24.012
Base...		27.552	60	27.465	Base....		27.550	60	27.463	Base....		27.549	60	27.462	Base....		27.548	59.5	27.462
Summit	9 7	24.080	62	24.013	Summit	9 22	24.080	60	24.017	Summit.	9 37	24.030	60	24.017	Summit.	9 52	24.075	60	24.012
Base...		37.552	60	27.465	Base....		27.549	60	27.462	Base....		27.549	60	27.462	Base....		27.547	59.5	27.461
Summit	9 8	24.080	62	24.013	Summit.	9 23	24.080	60	24.017	Summit.	9 38	24.080	60	24.017	Summit	9 53	24.075	60	24.012
Base ..		27.552	60	27.465	Base....		27.550	60	27.463	Base....		27.549	60	27.462	Base....		27.549	59.5	27.463
Summit	9 9	24.080	62	24.013	Summit.	9 24	24.060	60	24.017	Summit.	9 39	24.080	60	24.017	Summit	9 54	24.075	60	24.012
Base...		27.552	60	27.465	Base....		27.549	60	27.462	Base....		27.549	60	27.462	Base....		27.549	59.5	27.463
Summit	9 10	24.078	61	24.013	Summit.	9 25	24.080	60	24.017	Summit.	9 40	24.080	60	24.017	Summit.	9 55	24.075	60	24.012
Base...		27.552	60	27.465	Base....		27.549	60	27.462	Base....		27.548	60	27.461	Base....		27.549	59.5	27.463
Summit	9 11	24.078	61	24.013	Summit.	9 26	24.080	60	24.017	Summit.	9 41	24.080	60	24.017	Summit.	9 56	24.075	60	24.012
Base...		27.554	60	27.467	Base....		27.549	60	27.462	Base...		27.548	59.5	27.462	Base....		27.549	59.5	27.463
Summit	9 12	24.078	61	24.013	Summit.	9 27	24.080	60	24.017	Summit.	9 42	24.075	60	24.012	Summit.	9 57	24.075	60	24.012
Base...		27.552	60	27.465	Base....		27.549	60	27.462	Base....		27.549	59.5	27.463	Base....		27.550	59	27.465
Summit	9 13	24.080	61	24.015	Summit.	9 28	24.080	60	24.017	Summit.	9 43	24.075	60	24.012	Summit.	9 58	24.075	60	24.012
Base ..		27.552	60	27.465	Base....		27.549	60	27.462	Base....		27.549	59.5	27.463	Base....		27.549	59	27.464
Summit	9 14	24.080	61	24.015	Summit.	9 29	24.080	60	24.017	Summit.	9 44	24.075	60	24.012	Summit.	9 59	24.075	60	24.012
Base...		27.551	60	27.464	Base....		27.549	60	27.462	Base....		27.550	59.5	27.464	Base....		27.549	59	27.464

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

Meteorological record for June 1, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	a. m.					*a. m.*					*a. m.*					*a. m.*			
Station 1.	8 0	23.972	69	23.890	Station 1..	8 15	23.975	68	23.895	Station 1..	8 30	23.973	67.5	23.894	Station 1..	8 45	23.945	68	23.865
2.		24.704	65	24.650	2..		24.703	66	24.649	2..		24.704	70	24.641	2..		24.701	69	24.640
3.		26.190	42.5	26.169	3..		26.190	43.5	26.166	3..		26.190	45	26.162	3..		26.189	46	26.159
4.		27.458	58	27.395	4..		27.452	58	27.380	4..		27.447	58	27.384	4..		27.443	58.5	27.379
Station 1.	8 1	23.972	69	23.890	Station 1..	8 16	23.975	68	23.895	Station 1..	8 31	23.973	67.5	23.894	Station 1..	8 46	23.945	68	23.865
2.		24.703	65	24.649	2..		24.703	66	24.649	2..		24.703	70.5	24.639	2..		24.700	69	24.639
3		26.190	42.5	26.169	3..		26.190	44	26.165	3..		26.190	45	26.162	3..		26.189	46	26.159
4		27.457	58.5	27.393	4..		27.451	58	27.388	4..		27.448	58	27.385	4..		27.443	59	27.378
Station 1	8 2	23.972	69	23.890	Station 1..	8 17	23.974	67.5	23.895	Station 1..	8 32	23.970	67.5	23.891	Station 1..	8 47	23.945	68	23.865
2.		24.703	65	24.649	2.		24.700	66.5	24.645	2..		24.704	70.5	24.640	2..		24.701	69	24.640
3.		26.190	42.5	26.169	3..		26.195	44	26.170	3..		26.189	45	26.161	3..		26.190	46.5	26.159
4.		27.457	58.5	27.393	4..		27.452	58	27.389	4..		27.447	58	27.384	4..		27.443	59	27.378
Station 1.	8 3	23.972	68.5	23.891	Station 1..	8 18	23.965	68	23.885	Station 1..	8 33	23.990	67.5	23.911	Station 1..	8 48	23.945	68	23.865
2.		24.690	64.5	24.639	2..		24.703	67	24.647	2..		24.702	70.5	24.638	2..		24.700	68.5	24.640
3		26.190	43	26.167	3..		26.195	44	26.170	3..		26.189	45	26.161	3.		26.190	47	26.158
4.		27.457	58.5	27.393	4 .		27.451	58	27.388	4..		27.447	58	27.384	4..		27.444	59	27.379
Station 1.	8 4	23.972	68.5	23.891	Station 1..	8 19	23.965	68	23.885	Station 1..	8 34	23.990	67.5	23.911	Station 1..	8 49	23.955	68.5	23.874
2.		24.700	64	24.650	2..		24.703	67	24.647	2..		24.702	71	24.637	2..		24.690	68.5	24.630
3.		26.190	43	26.167	3..		26.197	44.5	26.171	3..		26.190	45.5	26.161	3..		26.190	47	26.158
4		27.457	58.5	27.393	4..		27.450	58	27.387	4..		27.445	58	27.382	4..		27.443	59	27.378
Station 1.	8 5	23.972	68.5	23.891	Station 1..	8 20	23.965	68	23.885	Station 1..	8 35	23.968	67.5	23.889	Station 1..	8 50	23.955	68.5	23.874
2		24.700	64	24.650	2..		24.701	68	24.642	2..		24.701	70.5	24.637	2..		24.701	68	24.643
3		26.190	43	26.167	3..		26.190	44.5	26.164	3..		26.193	45.5	26.164	3..		26.189	47	26.157
4.		27.458	58.5	27.394	4..		27.450	58	27.387	4..		27.446	58	27.383	4..		27.446	59	27.381
Station 1	8 6	23.972	68.5	23.891	Station 1..	8 21	23.970	68	23.890	Station 1..	8 36	23.968	67.5	23.889	Station 1..	8 51	23.950	68.5	23.869
2		24.700	64	24.650	2..		24.703	68.5	24.643	2..		24.703	70	24.640	2..		24.700	68	24.642
3		26.190	43	26.167	3..		26.190	44.5	26.164	3..		26.193	45.5	26.164	3..		26.189	47	26.157
4.		27.458	58.5	27.394	4..		27.450	58	27.387	4..		27.445	58	27.382	4..		27.446	59	27.381
Station 1.	8 7	23.972	68.5	23.891	Station 1..	8 22	23.970	68	23.890	Station 1..	8 37	23.968	67.5	23.889	Station 1..	8 52	23.930	68.5	23.869
2		24.700	64	24.650	2..		24.704	69	24.643	2..		24.702	70	24.639	2..		24.680	68	24.622
3.		26.190	43	26.167	3..		26.190	45	26.162	3..		26.195	45.5	26.165	3..		26.189	47	26.157
4.		27.459	58.5	27.395	4..		27.449	58	27.386	4..		27.446	58	27.383	4..		27.444	59.5	27.378
Station 1.	8 8	23.972	68.5	23.891	Station 1..	8 23	23.970	68	23.890	Station 1..	8 38	23.960	67	23.882	Station 1..	8 53	23.950	68	23.870
2.		24.700	64	24.650	2..		24.703	69	24.643	2..		24.700	69.5	24.638	2..		24.700	67	24.644
3.		26.190	43	26.167	3..		26.190	45	26.162	3..		26.190	45.5	26.161	3..		26.189	46.5	26.158
4.		27.459	58	27.396	4..		27.450	57.5	27.388	4..		27.447	58	27.384	4..		27.440	60	27.379

Station 1.	8 9	23.973	66.5	23.892	Station 1..	8 24	23.970	68	23.890	Station	8 39	23.960	67	23.882	Station 1..	8 54	23.950	68	23.870
2.		24.700	64.5	24.649	2..		24.704	69.5	24.640	2..		24.703	69.5	24.641	2..		24.701	67	24.645
3.		26.190	43	26.167	3..		26.190	45	26.162	3..		26.190	45.5	26.161	3..		26.189	46.5	26.158
4.		27.458	58	27.395	4..		27.449	57.5	27.387	4..		27.447	58	27.384	4..		27.446	60	27.379
Station 1.	8 10	23.975	68	23.895	Station 1..	8 25	23.973	68	23.893	Station 1..	8 40	23.960	67	23.882	Station 1..	8 55	23.950	68	23.870
2.		24.700	65	24.648	2..		24.710	70	24.647	2..		24.702	69.5	24.640	2..		24.700	66.5	24.645
3.		26.190	43	26.167	3..		26.190	45	26.162	3..		26.189	45.5	26.160	3..		26.190	46.5	26.159
4.		27.459	58	27.396	4..		27.448	57.5	27.386	4..		27.446	58	27.383	4..		27.447	60	27.380
Station 1.	8 11	23.975	68	23.895	Station 1..	8 26	23.973	68	23.893	Station 1..	8 41	23.960	67	23.882	Station 1..	8 56	23.950	68	23.870
2.		24.704	65	24.652	2..		24.702	70	24.639	2..		24.700	69.5	24.638	2..		24.690	66	24.638
3.		26.190	43	26.167	3..		26.192	45	26.164	3..		26.189	45.5	26.160	3..		26.189	46	26.159
4.		27.456	58	27.393	4..		27.448	58	27.385	4..		27.443	58	27.380	4..		27.448	60.5	27.381
Station 1.	8 12	23.975	68	23.895	Station 1..	8 27	23.970	68	23.890	Station 1..	8 42	23.962	68	23.880	Station 1..	8 57	23.950	68	23.870
2.		24.702	66	24.648	2..		24.703	70	24.640	2..		24.701	69.5	24.639	2..		24.690	66.5	24.636
3.		26.190	43	26.167	3..		26.195	45	26.167	3..		26.190	45.5	26.161	3..		26.189	46	26.159
4.		27.452	58	27.389	4..		27 448	58	27.385	4..		27.444	58	27.381	4..		27.448	60.5	27.381
Station 1.	8 13	23.975	68	23.895	Station 1..	8 28	23.970	68	23.890	Station 1..	8 43	23.953	68.5	23.872	tion 1..	8 58	23.950	68	23.870
2.		24.704	66	24.650	2..		24.704	70	24.641	2..		24.690	69.5	24.628	2..		24.690	65	24.640
3.		26.190	43	26.167	3..		26.195	45	26.167	3..		26.189	46	26.159	3..		26.189	46	26.159
4.		27.452	58	27.389	4..		27.447	58	27.384	4..		27.444	58	27.381	4..		27.448	60.5	27.381
Station 1.	8 14	23.975	68	23.895	Station 1..	8 29	23.972	67.5	23.893	Station 1..	8 44	23.953	68.5	23.872	Station 1..	8 59	23.950	68	23.870
2.		24.700	66	24.646	2..		24.704	70	24.641	2..		24.701	69	24.640	2..		24.680	64.5	24.629
3.		26.190	43	26.167	3..		26.189	45	26.161	3..		26.189	46	26.159	3..		26.189	46	26.159
4.		27.451	58	27.388	4..		27.447	58	27.384	4..		27.444	58.5	27.380	4..		27.440	61	27.379

Station No. 1.—Summit of Mount Washington.	Elevation of barometer above sea-level..	6,285.4 feet.
Station No. 2.—Above Jacob's Ladder.	Elevation of barometer above sea-level............	5,553.3 feet.
Station No. 3.—Waumbeck House.	Elevation of barometer above sea-level	4,058.7 feet.
Station No. 4.—Base of Mount Washington.	Elevation of barometer above sea-level	2,898.3 feet.

NOTE.—Barometer readings corrected for temperature and instrumental error only.

Meteorological record for June 2, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	a. m.					*a. m.*					*a. m.*					*a. m.*			
Station 1	8 0	23.905	67.5	23.826	Station 1	8 15	23.890	67	23.812	Station 1	8 30	23.880	69	23.798	Station 1	8 45	23.910	70	23.826
2		24.649	53	24.623	2		24.673	58	24.636	2		24.650	64	24.600	2		24.680	67	24.624
3		26.170	51	26.129	3		26.172	49	26.135	3		26.175	48.5	26.139	3		26.172	48	26.138
4		27.447	55	27.392	4		27.448	55	27.393	4		27.449	55	27.394	4		27.443	54.5	27.389
Station 1	8 1	23.900	67	23.822	Station 1	8 16	23.890	67	23.812	Station 1	8 31	23.880	69	23.798	Station 1	8 46	23.920	70	23.836
2		24.651	53.5	24.624	2		24.671	58	24.634	2		24.671	64	24.621	2		24.659	67	24.603
3		26.170	51	26.120	3		26.172	49	26.135	3		26.175	48.5	26.139	3		26.172	48	26.138
4		27.447	55	27.392	4		27.448	55	27.393	4		27.447	55	27.392	4		27.446	54.5	27.392
Station 1	8 2	23.900	67	23.822	Station 1	8 17	23.900	67	23.822	Station 1	8 32	23.905	70	23.821	Station 1	8 47	23.920	70	23.836
2		24.653	54	24.625	2		24.670	58	24.633	2		24.669	64.5	24.618	2		24.678	66.5	24.623
3		26.170	51	26.129	3		26.175	49	26.138	3		26.175	48.5	26.139	3		26.172	48	26.138
4		27.447	55	27.392	4		27.448	55	27.393	4		27.448	54.5	27.394	4		27.444	54.5	27.390
Station 1	8 3	23.900	67	23.822	Station 1	8 18	23.900	67	23.822	Station 1	8 33	23.905	70	23.821	Station 1	8 48	23.920	70	23.836
2		24.660	55.5	24.629	2		24.669	59.5	24.629	2		24.669	64.5	24.618	2		24.681	66.5	24.626
3		26.170	51	26.129	3		26.175	48.5	26.139	3		26.175	48.5	26.139	3		26.172	48.5	26.136
4		27.448	55	27.393	4		27.448	55	27.393	4		27.448	54.5	27.394	4		27.446	54.5	27.392
Station 1	8 4	23.895	67	23.817	Station 1	8 19	23.900	67	23.822	Station 1	8 34	23.905	70	23.821	Station 1	8 49	23.920	70	23.836
2		24.650	55.5	24.619	2		24.669	60	24.628	2		24.671	65	24.619	2		24.678	66	24.624
3		26.170	51	26.129	3		26.175	48.5	26.139	3		26.172	48.5	26.136	3		26.172	48.5	26.136
4		27.448	55	27.393	4		27.447	55	27.392	4		27.444	54	27.391	4		27.444	55	27.389
Station 1	8 5	23.895	67	23.817	Station 1	8 20	23.900	67	23.822	Station 1	8 35	23.890	71	23.804	Station 1	8 50	23.905	70	23.821
2		24.650	55.5	24.619	2		24.670	60.5	24.628	2		24.671	65	24.619	2		24.672	66.5	24.617
3		26.170	50.5	26.130	3		26.178	48.5	26.142	3		26.172	48.5	26.136	3		26.172	48.5	26.136
4		27.448	55	27.393	4		27.447	55	27.392	4		27.446	54	27.393	4		27.447	55	27.392
Station 1	8 6	23.895	67	23.817	Station 1	8 21	23.900	67	23.822	Station 1	8 36	23.890	71	23.804	Station 1	8 51	23.905	70	23.821
2		24.662	56	24.630	2		24.671	60.5	24.629	2		24.659	65	24.607	2		24.670	66	24.616
3		26.170	50	26.131	3		26.178	48	26.144	3		26.172	48.5	26.136	3		26.172	48.5	26.136
4		27.448	55	27.393	4		27.449	55	27.394	4		27.445	54	27.392	4		27.445	54.5	27.391
Station 1	8 7	23.895	67	23.817	Station 1	8 22	23.900	67	23.822	Station 1	8 37	23.905	71	23.819	Station 1	8 52	23.905	70	23.821
2		24.663	56	24.631	2		24.669	61.5	24.625	2		24.678	65	24.626	2		24.671	66	24.617
3		26.170	50	26.131	3		26.178	48	26.144	3		26.170	48.5	26.134	3		26.172	49	26.135
4		27.448	55	27.393	4		27.447	55	27.392	4		27.446	54	27.393	4		27.445	54.5	27.391
Station 1	8 8	23.890	67	23.812	Station 1	8 23	23.900	67	23.822	Station 1	8 38	23.903	71	23.819	Station 1	8 53	23.920	71	23.834
2		24.667	56	24.635	2		24.670	62.5	24.624	2		24.669	66	24.615	2		24.671	65.5	24.618
3		26.170	50	26.131	3		26.178	48	26.144	3		26.170	48.5	26.134	3		26.172	49	26.135
4		27.447	55	27.392	4		27.448	55	27.393	4		27.447	54	27.394	4		27.447	54.5	27.393

2.	8 9	24.667	56.5	24.634	2..	8 24	24.668	63	24.620	2..	8 39	24.671	66	24.616	2..	8 54	24.672	65	24.620
3.		26.170	50	26.131	3..		26.178	48	26.144	3..		26.170	48.5	26.134	3..		26.170	49	26.133
4.		27.448	55	27.393	4..		27.449	55	27.394	4..		27.447	54	27.394	4..		27.447	54.5	27.393
Station 1.	8 10	23.890	67	23.812	Station 1..	8 25	23.900	68	23.820	Station 1..	8 40	23.900	70.5	23.815	Station 1..	8 55	23.920	71	23.834
2.		24.669	56.5	24.636	2..		24.670	63	24.622	2..		24.673	66.5	24.618	2..		24.672	64.5	24.621
3.		26.170	50	26.131	3..		26.178	48	26.144	3..		26.170	48.5	26.134	3..		26.170	49	26.133
4.		27.447	55	27.392	4..		27.449	55	27.394	4..		27.448	54	27.395	4..		27.445	54.5	27.391
Station 1.	8 11	23.890	67	23.812	Station 1..	8 26	23.890	69	23.808	Station 1..	8 41	23.900	70.5	23.815	Station 1..	8 56	23.910	71.5	23.823
2.		24.666	57	24.632	2..		24.672	63	24.624	2..		24.674	67	24.618	2..		24.670	64	24.620
3.		26.170	49.5	26.132	3..		26.178	48	26.144	3..		26.170	48.5	26.134	3..		26.170	49.5	26.132
4		27.448	55	27.393	4..		27.449	55	27.394	4..		27.446	54	27.393	4..		27.446	55	27.391
Station 1	8 12	23.890	67	23.812	Station 1..	8 27	23.890	69	23.808	Station 1..	8 42	23.920	70	23.836	Station 1..	8 57	23.915	72	23.827
2		24.668	57.5	24.632	2..		24.672	63	24.624	2..		24.668	67	24.612	2		24.671	62.5	24.624
3		26.170	49.5	26.132	3..		26.178	48	26.144	3..		26.170	48.5	26.134	3..		26.170	50	26.131
4		27.447	55	27.392	4..		27.448	55	27.393	4..		27.445	54	27.392	4..		27.445	55	27.390
Station 1	8 13	23.890	67	23.812	Station 1..	8 28	23.890	69	23.808	Station 1..	8 43	23.920	70	23.836	Station 1..	8 58	23.915	72	23.827
2		24.670	57.5	24.634	2..		24.660	63	24.622	2..		24.668	67	24.612	2..		24.671	62	24.625
3		26.172	49	26.135	3..		26.178	48	26.144	3..		26.170	48.5	26.134	3..		26.170	50	26.131
4		27.449	55	27.394	4..		27.449	55	27.394	4..		27.445	54	27.392	4..		27.445	55	27.390
Station 1	8 14	23.890	67	23.812	Station 1.	8 29	23.880	69	23.798	Station 1..	8 44	23.910	70	23.826	Station 1..	8 59	23.915	72	23.827
2		24.671	58	24.634	2..		24.672	64	24.622	2..		24.661	67.5	24.604	2..		24.680	62	24.634
3		26.172	49	26.135	3..		26.175	48	26.141	3..		26.172	48.5	26.138	3..		26.170	50	26.131
4		27.449	55	27.394	4..		27.449	55	27.394	4..		27.444	54.5	27.390	4..		27.444	55	27.389

Station No. 1.—Summit of Mount Washington. Elevation of barometer above sea-level .. 6,285.4 feet.
Station No. 2.—Above Jacob's Ladder. Elevation of barometer above sea-level............ 5,553.3 feet.
Station No. 3.—Waumbeck House. Elevation of barometer above sea-level................ 4,058.7 feet.
Station No. 4.—Base of Mount Washington. Elevation of barometer above sea-level..... 2,898.3 feet.

NOTE.—Barometer readings corrected for temperature and instrumental error only.

Meteorological record for June 3, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	a. m.					*a. m.*					*a. m.*					*a. m.*			
Station 1	8 0	24.040	62	23.973	Station 1..	8 15	24.048	65	23.975	Station 1..	8 30	24.048	64	23.977	Station 1..	8 45	24.043	64.5	23.971
2		24.738	58	24.697	2..		24.738	59	24.695	2..		24.733	60	24.688	2..		24.738	62	24.689
3		26.225	54.5	26.175	3..		26.255	52	26.211	3..		26.250	52.5	26.205	3..		26.243	52	26.202
4		27.502	52	27.454	4..		27.504	51	27.459	4..		27.502	52.5	27.453	4..		27.503	53	27.453
Station 1.	8 1	24.042	62	23.975	Station 1..	8 16	24.048	65	23.975	Station 1..	8 31	24.048	64	23.977	Station 1..	8 46	24.043	64.5	23.971
2.		24.738	58	24.697	2..		24.738	59	24.695	2..		24.733	60.5	24.687	2..		24.738	62	24.689
3		26.225	54	26.177	3..		26.255	52	26.211	3..		26.250	52.5	26.205	3..		26.250	53	26.204
4		27.502	52	27.454	4 .		27.504	51	27.459	4..		27.502	52.5	27.453	4..		27.503	53	27.453
Station 1.	8 2	24.042	62.5	23.974	Station 1..	8 17	24.048	65	23.975	Station 1..	8 32	24.048	64	23.977	Station 1..	8 47	24.045	65	23.972
2		24.738	59	24.695	2..		44.738	50	24.693	2..		24.733	60.5	24.687	2..		24.738	62	24.689
3		26.225	54	26.177	3..		26.250	52	26.206	3..		26.250	52.5	26.205	3..		26.250	53.5	26.203
4.		27.502	52	27.454	4..		27.504	51	27.459	4..		27.501	53	27.451	4..		27.502	53	27.452
Station 1.	8 3	24.045	63	23.976	Station 1..	8 18	24.048	65	23.975	Station 1..	8 33	24.048	64	23.977	Station 1..	8 48	24.048	65.5	23.974
2.		24.738	59	24.695	2..		24.738	39	24.695	2..		24.733	61	24.686	2..		24.738	62	24.689
3		26.225	53.5	26.178	3.		26.250	52.5	26.205	3..		26.250	52.5	26.205	3..		26.250	53.5	26.203
4		27.503	52	27.455	4.		27.504	51	27.459	4..		27.501	53	27.451	4..		27.502	53	27.452
Station 1	8 4	24.050	64	23.979	Station 1.	8 19	24.048	64.5	23.976	Station 1..	8 34	24.048	64	23.977	Station 1..	8 49	24.048	66	23.973
2		24.738	59	24.695	2..		24.738	59	24.695	2..		24.737	61	24.690	2..		24.738	62	24.689
3.		26.225	53	26.179	3..		26.250	52.5	26.205	3..		26.250	52.5	26.205	3..		26.250	53.5	26.203
4		27.502	52	27.455	4..		27.504	51	27.459	4..		27.501	53	27.451	4..		27.502	53	27.452
Station 1	8 5	24.048	65	23.975	Station 1..	8 20	24.048	64	23.977	Station 1..	8 35	24.048	64	23.977	Station 1..	8 50	24.048	66	23.973
2		24.738	59	24.695	2..		24.738	59	24.695	2..		24.737	61.5	24.689	2..		24.738	62	24.689
3.		26.225	53	26.179	3..		26.250	52.5	26.205	3..		26.250	52.5	26.205	3..		26.250	54	26.202
4		27.503	51.5	27.456	4..		27.504	51	27.459	4..		27.501	53	27.451	4..		27.502	53	27.452
Station 1.	8 6	24.049	65.5	23.975	Station 1..	8 21	24.048	64	23.977	Station 1..	8 36	24.048	64	23.977	Station 1..	8 51	24.045	66	23.970
2		24.738	59	24.695	2..		24.738	59	24.695	2..		24.737	61.5	24.689	2..		24.738	62	24.689
3.		26.225	53	26.179	3..		26.250	52.5	26.205	3..		26.250	53	26.204	3..		26.250	54	26.202
4.		27.505	51.5	27.458	4..		27.504	51	27.459	4..		27.501	53	27.451	4..		27.502	53	27.452
Station 1	8 7	24.052	66	23.977	Station 1..	8 22	24.048	64	23.977	Station 1..	8 37	24.048	64	23.977	Station 1..	8 52	24.045	66	23.970
2.		24.738	59	24.695	2 .		24.738	59	24.695	2..		24.737	61.5	24.689	2..		24.738	62	24.689
3.		26.225	53	26.179	3..		26.250	52.5	26.205	3..		26.250	53	26.204	3..		26.250	54	26.202
4.		27.504	51.5	27.457	4..		27.502	51.5	27.455	4..		27.501	53	27.451	4..		27.502	53	27.452
Station 1.	8 8	24.050	66	23.975	Station 1..	8 23	24.048	64	23.977	Station 1.	8 38	24.048	64	23.977	Station 1..	8 53	24.048	66	23.973
2.		24.738	59	24.695	2..		24.738	59	24.695	2..		24.737	62	24.688	2..		24.738	62	24.689
3.		26.225	52.5	26.180	3..		26.250	52.5	26.205	3..		26.250	53	26.204	3..		26.250	54	26.202
4		27.504	51	27.459	4..		27.502	51.5	27.455	4..		27.501	53	27.451	4..		27.502	53	27.452

	2.	8 9	24.738	59	24.695		2..	8 24	24.738	59	24.695		2..	8 39	24.737	62	24.688		2..	8 54	24.738	62	24.689
	3.		26.225	52.5	26.180		3..		26.250	52.5	26.205		3..		26.250	53	26.204		3..		26.250	54	26.202
	4.		27.504	51	27.459		4..		27.502	52	27.454		4..		27.502	53	27.452		4..		27.502	53.5	27.450
Station	1.	8 10	24.048	65	23.975	Station	1..	8 25	24.048	64	23.977	Station	1..	8 40	24.048	64	23.977	Station	1..	8 55	24.048	66	23.973
	2.		24.738	59	24.695		2..		24.738	59	24.695		2..		24.738	62	24.689		3..		24.738	62	24.689
	3.		26.225	52.5	26.180		3..		26.250	52.5	26.205		3..		26.248	53	26.202		3..		26.250	54.5	26.200
	4.		27.503	51	27.458		4..		27.502	52	27.454		4..		27.502	53	27.452		4..		27.500	53.5	27.448
Station	1.	8 11	24.048	65	23.975	Station	1..	8 26	24.048	64	23.977	Station	1..	8 41	24.048	64	23.977	Station	1..	8 56	24.044	65.5	23.970
	2.		24.738	59	24.695		2..		24.738	59	24.695		2..		24.738	62	24.689		2..		24.738	61.5	24.690
	3		26.225	52.5	26.180		3..		26.250	52.5	26.205		3..		26.248	53	26.202		3..		26.250	54.5	26.200
	4.		27.504	51	27.459		4..		27.502	52	27.454		4..		27.502	53	27.452		4..		27.500	53.5	27.448
Station	1.	8 12	24.048	65	23.975	Station	1..	8 27	24.048	64	23.977	Station	1..	8 42	24.044	63.5	23.974	Station	1..	8 57	24.044	65.5	23.970
	2.		24.738	59	24.695		2..		24.738	59	24.695		2..		24.738	62	24.689		2..		24.738	61.5	24.690
	3.		26.225	52.5	26.180		3..		26.250	52.5	26.205		3..		26.248	53	26.202		3..		26.250	54.5	26.200
	4.		27.504	51	27.459		4..		27.502	52	27.454		4..		27.502	53	27.452		4..		27.500	58.5	27.448
Station	1.	8 13	24.048	65	23.975	Station	1..	8 28	24.048	64	23.977	Station	1..	8 43	24.043	64	23.972	Station	1..	8 58	24.044	65.5	23.970
	2.		24.738	59	24.695		2..		24.738	59	24.695		2..		24.738	62	24.689		2..		24.738	61.5	24.690
	3.		26.250	52.5	26.205		3..		26.252	52.5	26.207		3..		26.248	52	26.202		3..		26.250	54.5	26.200
	4.		27.504	51	27.459		4..		27.502	52	27.454		4..		27.502	53	27.452		4..		27.500	53.5	27.448
Station	1.	8 14	24.048	65	23.975	Station	1.	8 29	24.048	64	23.977	Station	1..	8 44	24.043	64.5	23.971	Station	1..	8 59	24.044	65.5	23.970
	2.		24.738	59	24.695		2..		24.738	60	24.693		2..		24.738	62	24.689		2..		24.738	61.5	24.690
	3.		26.250	52	26.206		3..		26.252	52.5	26.207		3..		26.248	52	26.202		3..		26.250	54.5	26.200
	4.		27.504	51	27.459		4..		27.502	52	27.454		4..		27.502	53	27.452		4..		27.501	53.5	27.449

Station No. 1.—Summit of Mount Washington. Elevation of barometer above sea-level.... 6,285.4 feet.
Station No. 2.—Above Jacob's Ladder. Elevation of barometer above sea-level............. 5,553.3 feet.
Station No. 3.—Waumbeck House. Elevation of barometer above sea-level.................. 4,058.7 feet.
Station No. 4.—Base of Mount Washington. Elevation of barometer above sea-level........ 2,898.3 feet.

NOTE.—Barometer readings corrected for temperature and instrumental error only.

Meteorological record for June 4, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	a. m.					*a. m.*					*a. m.*					*a. m.*			
Station 1	8 0	23.765	62	20.698	Station 1	8 15	23.766	65.3	23.692	Station 1	8 30	23.762	66	23.687	Station 1	8 45	23.748	64.5	23.676
2		24.410	48.5	24.394	2		24.408	52	24.384	2		24.399	50	24.380	2		24.399	52	24.375
3		25.950	59	25.890	3		25.945	57	25.889	3		25.932	56	25.880	3		25.930	57.5	25.874
4		27.165	59	27.101	4		27.166	58	27.105	4		27.159	58.5	27.096	4		27.149	57.5	27.089
Station 1	8 1	23.765	62	23.698	Station 1	8 16	23.766	65	23.693	Station 1	8 31	23.762	66	23.687	Station 1	8 46	23.748	64.5	23.076
2		24.409	48.5	24.393	2		24.409	52	24.385	2		24.399	50	24.380	2		24.398	52	24.374
3		25.950	59	25.890	3		25.945	56	25.892	3		25.935	56	25.883	3		25.930	57.5	25.874
4		27.165	59	27.101	4		27.167	58	27.106	4		27.158	58	27.097	4		27.147	57.5	27.087
Station 1	8 2	23.765	62.5	23.697	Station 1	8 17	23.766	65	23.693	Station 1	8 32	23.765	65.5	23.682	Station 1	8 47	23.743	64.5	23.671
2		24.409	48.5	24.393	2		24.407	51	24.386	2		24.399	50	24.380	2		24.399	52	24.375
3		25.950	59	25.890	3		25.945	54.5	25.896	3		25.938	56	25.886	3		25.928	57	25.873
4		27.165	59	27.101	4		27.167	58.5	27.104	4		27.158	58	27.097	4		27.145	57.5	27.085
Station 1	8 3	23.763	62.5	23.697	Station 1	8 18	23.763	64.5	23.691	Station 1	8 33	23.756	65.5	23.682	Station 1	8 48	23.743	64.5	23.671
2		24.410	48	24.895	2		24.406	51	24.385	2		24.399	50	24.380	2		24.399	52	24.375
3		25.950	59	25.890	3		25.945	55	25.894	3		25.938	56.5	25.885	3		25.928	57	25.873
4		27.166	59	27.102	4		27.164	58	27.103	4		27.158	58	27.097	4		27.145	57.5	27.085
Station 1	8 4	23.765	63.5	23.696	Station 1	8 19	23.763	64.5	23.691	Station 1	8 34	23.756	65.5	23.682	Station 1	8 49	23.743	64.5	23.671
2		24.410	48	24.395	2		24.406	50.5	24.386	2		24.399	50	24.380	2		24.390	52.5	24.374
3		25.948	59	25.888	3		25.938	55	25.887	3		25.938	56.5	25.885	3		25.928	58	25.870
4		27.166	58.5	27.108	4		27.165	58	27.104	4		27.155	58	27 094	4		27.143	57.5	27.083
Station 1	8 5	23.768	63.5	23.697	Station 1	8 20	23.763	64.5	23.691	Station 1	8 35	23.736	65.5	23.682	Station 1	8 50	23.743	64.5	23.671
2		24.410	48	24.395	2		24.407	50.5	24.387	2		24.399	50	24.380	2		24.399	52.5	24.374
3		25.948	59	25.888	3		25.938	55	25.887	3		25.938	56.5	25.885	3		25.928	58	25.870
4		27.167	58.5	27.101	4		27.165	58	27.104	4		27.155	58	27.094	4		27.145	57.5	27.085
Station 1	8 6	23.766	64	23.695	Station 1	8 21	23.763	64.5	23.691	Station 1	8 36	23.754	65	23.681	Station 1	8 51	23.743	64.5	23.671
2		24.410	48	24.395	2		24.399	50	24.380	2		24.399	50	24.380	2		24.399	52.5	24.374
3		25.948	58.5	25.889	3		25.938	55	25.889	3		25.938	56.5	25.885	3		25.928	58	25.870
4		27.169	58.5	27.106	4		27.165	58	27.104	4		27.150	58	27.089	4		27.147	57.5	27.087
Station 1	8 7	23.768	64.5	23.696	Station 1	8 22	23.763	64.5	23.691	Station 1	8 37	23.754	65	23.581	Station 1	8 52	23.743	64.5	23.671
2		24.208	47.5	24.394	2		24.398	50	24.379	2		24.390	50	24.380	2		24.399	52.5	24.374
3		25.948	58.5	25.889	3		25.928	55	25.889	3		25.938	56.5	25.885	3		25.930	59.5	25.869
4		27.169	58.5	27.106	4		27.167	58	27.106	4		27.150	58	27.089	4		27,147	57.5	27.087
Station 1	8 8	23.768	65	23.695	Station 1	8 23	23.763	65.	23.690	Station 1	8 38	23.751	64.5	23.682	Station 1	8 53	23.743	64.5	21.671
2		24.409	47.5	24.395	2		24.399	49.5	24.379	2		24.399	51	24.378	2		24.399	53	24.373
3		25.948	58	25.890	3		25.938	55	[illegible]	3		25.938	56.5	25.885	3		25.920	60	25.868
4		27.169	58	27.108	4		27.164	58	27.101	4		27.140	58	27.088	4		27.147	57.5	27.087

Station 1.	8 9	23.768	65	23.695	Station 1..	8 24	23.763	65.5	23.689	Station 1..	8 39	23.748	64	23.677	Station 1..	8 54	23.743	64.5	23.671
2.		24.409	48	24.394	2..		24.399	49.5	24.379	2..		24.399	51.5	24.377	2..		24.399	53.5	24.372
3.		25.948	58	25.890	3..		25.938	56	25.886	3..		25.938	56.5	25.885	3..		25.930	60	25.868
4.		27.168	58	27.107	4..		27.161	58	27.100	4..		27.149	58	27.088	4..		27.147	58	27.086
Station 1.	8 10	23.768	65	23.695	Station 1..	8 25	23.760	66	23.685	Station 1..	8 40	23.748	64	23.677	Station 1.	8 55	23.743	64.5	25.671
2.		24.409	49	24.392	2..		24.399	49.5	24.379	2..		24.399	51.5	24.377	2..		24.399	54	24.371
3.		25.948	57.5	25.891	3..		25:935	55.5	25.884	3..		25.938	57	25.884	3..		25.930	60.5	25.867
4.		27.168	58	27.107	4..		27.161	58	27.100	4..		27.149	58	27.088	4.		27.145	58	27.084
Station 1.	8 11	23.768	65.5	23.694	Station 1..	8 26	23.762	66	23.687	Station 1..	8 41	23.748	64	23.677	Station 1..	8 56	23.740	64.5	23.668
2.		24.409	49.5	24.391	2..		24.399	49.5	24.379	2..		24.399	51.5	24.377	2..		24.399	54	24.371
3.		25.948	57.5	25.891	3..		25.935	55.5	25.884	3..		23.935	57	25.881	3..		23.930	61	25.866
4.		27.167	58	27.106	4..		27.161	58.5	27.098	4..		27.150	58	27.089	4..		27.147	58	27.082
Station 1.	8 12	23.765	65.5	23.691	Station 1..	8 27	23.762	66	23.687	Station 1..	8 42	23.748	64	23.677	Station 1..	8 57	23.743	64.5	23.671
2		24.409	50	24.390	2..		24.393	49.5	24.373	2..		24.399	52	24.375	2..		24.399	54	24.371
3.		25.948	57	25.892	3..		25.935	55.5	25.884	3..		25.938	37.5	25.882	3..		25.930	61	25.866
4.		27.167	58	27.106	4..		27.159	58.5	27.096	4..		27.150	57.5	27.090	4..		27.141	58	27.080
ion 1.	8 13	23.765	65.5	23.691	Station 1..	8 28	23.762	66	23.687	Station 1..	8 43	23.748	64.5	23.676	Station 1..	8 58	23.743	64.5	23.671
2.		24.409	51	24.388	2..		24.390	50	24.371	2..		24.399	52	24.375	2..		24.399	54	24.371
3.		25.945	57	25.889	3..		25.932	55.5	25.881	3..		25.930	58	25.872	3..		25.930	61	25.866
4.		27.167	58.5	27.104	4..		27.159	58.5	27.096	4..		27.149	57.5	27.089	4..		27.141	58	27.080
Station 1.	8 14	23.765	65.5	23.691	Station 1..	8 29	23.762	66	23.687	Station 1..	8 44	23.748	64.5	23.676	Station 1..	8 59	23.740	64.5	23.668
2.		24.408	52	24.384	2..		24.390	50	24.371	2..		24.399	52	24.375	2..		24.399	54	24.371
3.		25.945	57	25.889	3..		25.932	55.5	25.881	3..		25,930	58	25.872	3..		25.930	60.5	25.867
4.		27.167	58.5	27.104	4..		27.159	58.5	27.096	4..		27.149	57.5	27.089	4..		27.141	58	27,080

Station No. 1.—Summit of Mount Washington. Elevation of barometer above sea-level .. 6285.4 feet.
Station No. 2.—Above Jacob's Ladder. Elevation of barometer above sea-level .... 5553.3 feet.
Station No. 3.—Waumback House. Elevation of barometer above sea-level .... 4058.7 feet.
Station No. 4.—Base of Mount Washington. Elevation of barometer above sea-level..... 2898.3 feet.

NOTE.--Barometer-readings corrected for temperature and instrumental error only.

Meteorological record for June 5, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	a. m.					*a. m.*					*a. m.*					*a. m.*			
Station 1.	8 0	23.528	60	23.467	Station 1..	8 15	23.535	63	23.468	Station 1..	8 30	23.542	63	23.475	Station 1..	8 45	23.550	62	23.485
2.		24.241	62	24.196	2..		24.230	59	24.191	2..		24.239	56	24.207	2..		24.230	53	24.204
3.		25.710	60	25.649	3..		25.705	57.5	25.650	3..		25.710	57.5	25.655	3..		25.720	58	25.664
4.		26.909	58	26.848	4..		26.909	59	26.845	4..		26.919	59	26.855	4..		26.922	59	26.858
Station 1	8 1	23.535	61	23.470	Station 1..	8 16	23.540	63	23.473	Station 1..	8 31	23.540	63	23.473	Station 1..	8 46	23.550	62	23.485
2.		24.241	60.5	24.199	2..		24.230	59	24.191	2..		24.239	56	24.207	2..		24.229	53	24.203
3.		25.705	59.8	25.645	3..		25.705	57.5	25.650	3..		25.710	57	25.656	3..		25.722	58	25.666
4.		26.909	58	26.848	4..		26.912	59	26.848	4..		26.919	59	26.855	4..		26.922	59	26.858
Station 1.	8 2	23.528	61	23.463	Station 1..	8 17	23.540	63	23.473	Station 1..	8 32	23.540	63	23.473	Station 1..	8 47	23.550	61.5	23.486
2.		24.239	60	24.198	2..		24.230	59	24.191	2..		24.240	55	24.210	2..		24.239	53.5	24.212
3.		25.708	59.5	25.648	3..		25.705	57.5	25.650	3..		25.710	57	25.656	3..		25.722	58	25.669
4.		26.909	58	26.848	4..		26.914	59	26.850	4..		26.920	59	26.856	4..		26.922	59	26.858
Station 1.	8 3	23.530	61.5	23.466	Station 1..	8 18	23.540	63	24.473	Station 1..	8 33	23.540	62.5	23.474	Station 1..	8 48	23.550	61.5	23.486
2.		24.239	60	24.198	2..		24.200	59	24.191	2..		24.240	54.5	24.211	2..		24.239	53.5	24.212
3.		25.709	59	25.650	3..		25.708	57.5	25.653	3..		25.710	57	25.656	3..		25.725	58	25.669
4		26.909	58	26.848	4..		26.913	59	26.849	4..		26.920	59	26.856	4..		26.922	59	26.858
Station 1.	8 4	23.530	61	23.465	Station 1..	8 19	23.540	63	23.473	Station 1..	8 34	23.540	62.5	23.474	Stati	8 49	23.554	61.5	23.485
2		24.239	60	24.198	2..		24.230	59	24.191	2..		24.240	54.5	24.211	2..		24.237	53	24.211
3.		25.708	59	25.649	3..		25.710	57.5	25.655	3..		25.710	57	25.656	3..		25.722	58	25.666
4.		26.908	58	26.848	4..		26.913	59	26.849	4..		26.920	59	26.856	4..		26.922	59	26.858
Station 1.	8 5	23.535	61.5	23.471	Station 1..	8 20	23.540	63	23.473	Station 1..	8 35	23.540	62.5	23.474	Station 1..	8 50	23.554	61.5	23.485
2		24.239	59.5	24.199	2..		24.230	59	24.191	2..		24.239	54.5	24.210	2..		24.237	53	24.211
3		25.708	59	25.649	3..		25.710	57.5	25.655	3..		25.710	57	25.653	3..		25.722	58	25.666
4		26.908	58.5	26.846	4..		26.915	50	26.851	4..		26.920	59	26.856	4..		26.923	59	26.859
Station 1	8 6	23.534	61.5	23.470	Station 1..	8 21	23.538	63	23.471	Station 1..	8 36	23.544	62.5	23.478	Station 1..	8 51	23.554	61.5	23.485
2		24.239	50.5	24.199	2..		24.230	58.5	24.192	2..		24.239	53	24.213	2..		24.232	53.5	24.205
3		25.709	59	25.650	3..		25.702	57.5	25.647	3.		25.718	57.5	25.663	3		25.728	58	25.672
4.		26.908	59	26.844	4..		26.915	59	26.851	4..		26.920	59	26.856	4..		26.928	59	26.859
Station 1	8 7	23.534	61.5	23.470	Station 1..	8 22	23.538	63	23.471	Station 1..	8 37	23.544	62.5	23.478	Station 1..	8 52	25.554	61.5	23.485
2		24.230	60	24.189	2..		24.230	58	24.202	2..		24.230	52	24.206	2..		24.232	53.5	24.205
3		25.708	59	25.649	3..		25.702	57.5	25.647	3..		25.722	57.5	25.667	3..		25.728	58	25.672
4		26.907	59	26.843	4..		26.914	59	26.850	4..		26.920	59	26.855	4..		26.923	59	26.859
Station 1	8 8	23.534	61.5	23.470	Station 1..	8 23	23.538	63	23.471	Station 1..	8 38	23.545	62.5	23.478	Station 1..	8 53	23.554	61.5	23.485
2		24.232	59.5	24.192	2..		24.240	58	24.203	2..		24.230	52	24.216	2..		24.233	53.5	24.205
3.		25.707	59	25.648	3..		25.702	57.5	25.649	3..		25.720	57.5	25.665	3..		25.728	58	25.670
4		26.907	59	26.843	4..		26.914	59	26.850	4..		26.920	50.5	26.855	4..		26.923	59	26.859

Station 1.	8 9	23.534	62	23.469	Station 1..	8 24	23.544	63	23.477	Station 1..	8 39	23.545	62	23.480	Station 1..	8 54	23.554	61.5	23.485
3.		24.232	59.5	24.192	2..		24.240	58	24.203	2..		24.230	52	24.206	2..		24.232	53.5	24.205
3		25.700	58	25.644	3..		25.710	57.5	25.655	3..		25.720	57.5	25.665	3..		25.728	58.5	25.671
4.		26.907	59	26.843	4..		26.913	59	26.849	4..		26.921	59.5	26.856	4..		26.923	59	26.859
Station 1	8 10	23.534	62	23.469	Station 1..	8 25	23.544	63	23.477	Station 1..	8 40	23.545	62	23.480	Station 1..	8 55	23.554	61.5	23.485
2.		24.232	59.5	24.192	2..		24.240	57.5	24.204	2..		24.230	52	24.206	2..		24.232	53.5	24.205
3.		25.702	58	25.646	3..		25.710	57.5	25.655	3..		25.720	57.5	25.665	3..		25.730	[illegible]	25.673
4.		26.908	59	26.844	4..		26.913	59	26.849	4..		26.921	59.5	26.856	4..		26.925	59	26.861
Station 1.	8 11	23.535	62	23.470	Station 1..	8 26	23.544	63	23.477	Station 1..	8 41	23.545	62	23.480	Station 1..	8 56	23.554	61.5	23.485
2.		24.232	59.5	24.192	2..		24.230	57	24.196	2..		24.230	52	24.206	2..		24.232	53.5	24.205
3		25.702	58	25.646	3..		25.708	57.5	25.653	3..		25.722	57.5	25.667	3..		25.730	58.5	25.673
4.		26.908	59	26.844	4..		26.917	59	26.853	4..		26.921	59.5	26.856	4..		26.926	59	26.861
Station 1	8 12	23.535	62.5	23.469	Station 1..	8 27	23.538	63	23.471	Station 1..	8 42	23.548	62	23.483	Station 1..	8 57	23.555	61.5	23.486
2.		24.239	59.5	24.199	2..		24.236	57	24.204	2..		24.230	52.5	24.205	2..		24.232	54	24.204
3.		25.705	57.5	25.650	3..		25.709	57.5	25.654	3..		25.722	57.5	25.667	3..		25.729	59	25.671
4.		26.908	59	26.844	4..		26.919	59	26.855	4..		26.921	59.5	26.856	4..		26.926	59.5	26.861
Station 1.	8 13	23.535	62.5	23.469	Station 1..	8 28	23.538	63	23.471	Station 1..	8 43	23.550	62	23.485	Station 1..	8 58	23.555	61.5	23.486
2		24.229	59.5	24.189	2..		24.238	56.5	24.205	2..		24.230	52.5	24.205	2..		24.232	54	24.204
3.		25.705	57.5	25.650	3..		25.710	57.5	25.655	3..		25.722	58	25.666	3..		25.720	59.5	25.670
4.		26.909	59	26.845	4..		26.919	59	26.855	4..		26.923	59	26.859	4..		26.930	59.5	26.865
Station 1	8 14	23.535	62.5	23.469	Station 1..	8 29	23.542	63	23.475	Station 1..	8 44	23.550	62	23.485	Station 1..	8 59	23.555	61.5	23.486
2.		24.230	59	24.191	2..		24.239	56	24.207	2..		24.230	52.5	24.205	2..		24.238	54	24.210
3		25.705	57.5	25.650	3..		25.710	57.5	25.655	3..		25.720	58	25.664	3..		25.729	59.5	25.670
4.		26.909	59	26.845	4..		26.919	59	26.855	4..		26.922	59	26.858	4..		26.927	59.5	26.862

Station No. 1.—Summit of Mount Washington. Elevation of barometer above sea-level.. 6,285.4 feet.
Station No. 2.—Above Jacob's Ladder. Elevation of barometer above sea-level......... 5,553.3 feet.
Station No. 3.—Waumbeck House. Elevation of barometer above sea-level.............. 4,058.7 feet.
Station No. 4.—Base of Mount Washington. Elevation of barometer above sea-level..... 2,898.3 feet.

NOTE.—Barometer-readings corrected for temperature and instrumental error only.

Meteorological record for June 6, 1873

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	a. m.					*a. m.*					*a. m.*					*a. m.*			
Station 1.	8 0	23.725	70	23.643	Station 1..	8 15	23.735	74	23.645	Station 1..	8 30	23.735	75	23.642	Station 1..	8 45	23.735	74.5	23.643
2.		24.370	63	24.323	2..		24.370	63	24.322	2..		24.370	61	24.327	2..		24.369	59.5	24.329
3.		25.854	61	25.790	3..		25.850	57	25.795	3..		25.850	58	25.792	3..		25.850	58.5	25.791
4.		27.057	58	26.996	4..		27.060	58	26.999	4..		27.059	59	26.995	4..		27.059	58	26.998
Station 1.	8 1	23.725	70	23.643	Station 1..	8 16	23.736	74.5	23.644	Station 1..	8 31	23.735	75	23.642	Station 1..	8 46	23.735	74.5	23.643
2		24.370	63	24.322	2..		24.370	62.5	24.323	2..		24.370	60.5	24.328	2..		24.369	59	24.330
3		25.854	61	25.790	3..		25.850	57	25.795	3..		25.850	58	25.792	3..		25.850	58.5	25.791
4		27.058	58	26.997	4..		27.058	58	26.997	4..		27.059	59	26.995	4..		27.059	59.5	26.994
Station 1.	8 2	23.730	70.5	23.647	Station 1..	8 17	23.736	75	23.643	Station 1..	8 32	23.735	75	23.642	Station 1..	8 47	23.735	74.5	23.643
2		24.370	63.5	24.321	2..		24.370	62.5	24.323	2..		24.370	60	24.329	2..		24.369	59	24.330
3.		25.854	62	25.787	3..		25.850	57	25.795	3..		25.850	58	25.792	3..		25.850	58.5	25.791
4		27.056	58	26.995	4..		27.058	58	26.997	4..		27.059	59	26.995	4..		27.059	59.5	26.994
Station 1	8 3	23.732	71	23.648	Station 1..	8 18	23.736	75	23.643	Station 1..	8 33	23.735	75	23.642	Station 1..	8 48	23.735	74.5	23.643
2		24.370	63.5	24.321	2..		24.370	62.5	24.323	2..		24.370	60	24.329	2..		24.369	59	24.330
3		25.854	62	25.787	3..		25.850	57	25.795	3..		25.850	58	25.792	3..		25.850	58	25.792
4.		27.055	58	26.994	4..		27.058	58	26.997	4..		27.059	59	26.995	4..		27.059	59.5	26.994
Station 1.	8 4	23.730	71.5	23.645	Station 1..	8 19	23.734	74.5	23.642	Station 1..	8 34	23.735	75	23.642	Station 1..	8 49	23.735	74.5	23.643
2.		24.370	63.5	24.321	2..		24.370	62	24.325	2..		24.370	60	24.329	2..		24.369	59	24.330
3		25.854	62	25.787	3..		25.850	57	25.795	3..		25.850	58	25.792	3..		25.850	59	25.790
4		27.054	58	26.993	4..		27.058	58	26.997	4..		27.058	59	26.994	4..		27.059	59.5	26.994
Station 1	8 5	23.732	72	23.646	Station 1..	8 20	23.734	74.5	23.642	Station 1..	8 35	23.735	75	23.642	Station 1..	8 50	23.735	74.5	23.643
2.		24.370	63.5	24.321	2..		24.370	62	24.325	2..		24.370	60	24.329	2..		24.369	59	24.330
3.		25.854	61	25.790	3..		25.852	57	25.797	3..		25.850	58	25.792	3..		25.850	59	25.790
4.		27.055	58	26.994	4..		27.058	58	26.997	4..		27.059	59	26.995	4..		27.060	60	26.994
Station 1.	8 6	23.731	72	23.645	Station 1..	8 21	23.734	74.5	23.642	Station 1..	8 36	23.735	75	23.642	Station 1..	8 51	23.735	74.5	23.643
2.		24.370	63.5	24.321	2..		24.370	62	24.325	2..		24.370	60.5	24.328	2..		24.369	59	24.330
3		25.855	60	25.793	3..		25.852	57.5	25.795	3..		25.850	58	25.792	3..		25.850	59	25.790
4		27.055	58	26.994	4..		27.058	58	26.997	4..		27.058	59	26.994	4..		27.060	60	26.994
Station 1	8 7	23.732	72	23.646	Station 1..	8 22	23.734	74.5	23.642	Station 1..	8 37	23.735	75	23.642	Station 1..	8 52	23.735	74.5	23.643
2		24.370	63.5	24.321	2..		24.370	62	24.325	2..		24.369	60.5	24.327	2..		24.369	59	24.330
3		25.855	59	25.795	3..		25.852	57.5	25.795	3..		25.850	58	25.792	3..		25.850	59	25.790
4.		27.054	58	26.993	4..		27.058	58	26.997	4..		27.059	59	26.995	4..		27.060	60	26.994
Station 1.	8 8	23.734	72.5	23.647	Station 1	8 23	23.734	74.5	23.642	Station 1..	8 38	23.735	75	23.642	Station 1..	8 53	23.735	74.5	23.643
2		24.370	63.5	24.321	2..		24.370	62	24.325	2..		24.369	60.5	24.327	2..		24.369	59	24.330
3		25.850	58	25.792	3..		25.852	57.5	25.795	3.		25.850	58	25.792	3..		25.850	59	25.790
4.		27.055	58	26.994	4..		27.058	58	26.997	4..		27.058	59	26.994	4..		27.060	60	26.994

Station 1.	8 9	23.734	73	23.646	Station 1..	8 24	23.735	74.5	23.643	Station 1..	8 39	23.735	75	23.642	Station 1..	8 54	23.735	74.5	23.643
2.		24.370	63.5	24.321	2..		24.370	62	24.325	2..		24.369	60	24.328	2..		24.369	59	24.300
3.		25.850	57	25.795	3..		25.850	57.5	25.793	3..		25.860	58	25.792	3..		25.850	59	25.790
4.		27.056	58	26.995	4..		27.058	58	26.997	4..		27.059	59	26.995	4..		27.061	60	26.905
Station 1.	8 10	23.735	73.5	23.646	Station 1..	8 25	23.735	74.5	23.643	Station 1..	8 40	23.735	75	23.642	Station 1..	8 55	23.735	74.5	23.643
2.		24.370	64	24.320	2..		24.370	62	24.325	2..		24.369	60	24.328	2..		24.369	59	24.330
3.		25.850	57	25.795	3..		25.840	57	25.795	3..		25.850	58	25.792	3..		25.850	59	25.790
4.		27.058	58	26.997	4..		27.058	58	26.997	4..		27.059	59	26.995	4..		27.062	60	26.996
Station 1.	8 11	23.735	74	23.645	Station 1..	8 26	23.735	75	23.642	Station 1..	8 41	23.735	75	23.642	Station 1..	8 56	23.735	74.5	23.643
2.		24.370	63.5	24.321	2..		24.370	61.5	24.326	2..		24.369	60	24.328	2..		24.309	59	24.330
3.		25.850	57	25.795	3..		25.850	57	25.795	3..		25.850	57.5	25.793	3..		25.850	59	25.790
4.		27.058	58	26.997	4..		27.058	58	26.997	4..		27.059	59	26.995	4..		27.062	60	26.996
Station 1.	8 12	23.735	74	23.645	Station 1..	8 27	23.735	75	23.642	Station 1..	8 42	23.735	75	23.642	Station 1..	8 57	23.735	74.5	23.643
2.		24.370	63.5	24.321	2..		24.370	61	24.327	2..		24.369	60	24.328	2..		24.369	59	24.330
3.		25.850	57	25.795	3..		25.850	57	25.795	3..		25.852	58	25.794	3..		25.850	59	25.790
4.		27.058	58	26.997	4..		27.058	59	26.997	4..		27.059	59	26.995	4..		27.062	60	26.996
Station 1.	8 13	23.735	74	23.645	Station 1..	8 28	23.735	75	23.642	Station 1..	8 43	23.735	75	23.642	Station 1..	8 58	23.735	74.5	23.643
2.		24.370	68	24.322	2..		24.370	61	24.327	2..		24.370	60	24.329	2..		24.369	59	24.330
3.		25.850	57	25.795	3..		25.850	57	25.795	3..		25.852	58	25.794	3..		25.850	59	25.790
4.		27.058	58	26.997	4..		27.059	58	26.998	4..		27.059	59	26.995	4..		27.062	60	26.996
Station 1.	8 14	23.735	74	23.645	Station 1..	8 29	23.735	75	23.642	Station 1..	8 44	23.735	75	23.642	Station 1..	8 59	23.735	74.5	23.643
2.		24.370	63	24.322	2..		24.370	61	24.327	2..		24.370	59.5	24.330	2..		24.369	59	24.330
3.		25.850	57.5	25.793	3..		25.850	57	25.795	3..		25.850	58	25.792	3..		25.852	59.5	25.791
4.		27.060	58	26.999	4..		27.059	59	26.995	4..		27.060	58.5	26.999	4..		27.065	60	26.999

Station No. 1.—Summit of Mount Washington. Elevation of barometer above sea-level . 6,285.4 feet.
Station No. 2.—Above Jacob's Ladder. Elevation of barometer above sea-level.......... 5,553.3 feet.
Station No. 3.—Waumbeck House. Elevation of barometer above sea-level............... 4,058.7 feet.
Station No. 4.—Base of Mount Washington. Elevation of barometer above sea-level...... 2,898.3 feet.

NOTE.—Barometer-readings corrected for temperature and instrumental error only.

Meteorological record for June 7, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation. a. m.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation. a. m.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation. a. m.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation. a. m.	Barometer.	Attached thermometer.	Corrected barometer.
Station 1.	8 0	23. 785	67	23. 707	Station 1..	8 15	23. 785	67	23. 707	Station 1..	8 30	23. 785	66	23. 710	Station 1..	8 45	23. 780	62	23. 713
2.		24. 459	63	24. 421	2..		24. 454	60	24. 413	2..		24. 449	58	24. 412	2..		24. 448	60	24. 407
3.		25. 935	58	25. 877	3..		25. 935	56	25. 882	3..		25. 938	55. 5	25. 886	3..		25. 935	54	25. 887
4		27. 168	60	27. 102	4..		27. 170	60	27. 104	4..		27. 172	00	27. 106	4..		27. 171	59. 5	27. 106
Station 1.	8 1	23. 785	67	23. 707	Station 1..	8 16	23. 785	67	23. 707	Station 1..	8 31	23. 785	66	23. 710	Station 1..	8 46	23. 780	62	23. 713
2		24. 459	63	24. 421	2..		24. 454	60	24. 413	2..		24. 449	58	24. 412	2..		24. 449	60	24. 408
3		25. 935	58	25. 877	3..		25. 935	56	25. 882	3..		25. 938	55. 5	25. 886	3..		25. 930	54	25. 882
4.		27. 168	60	27. 102	4..		27. 170	60	27. 104	4..		27. 172	60	27. 106	4..		27. 170	59. 5	27. 105
Station 1	8 2	23. 785	67	23. 707	Station 1..	8 17	23. 785	67	23. 707	Station 1..	8 32	23. 785	66	23. 710	Station 1..	8 47	23. 778	62	23. 711
2.		24. 454	63	24. 410	2..		24. 450	60	24. 409	2..		24. 449	58. 5	24. 411	2..		24. 449	60	24. 408
3		25. 935	57. 5	25. 879	3..		25. 935	56	25. 882	3..		25. 938	55	25. 887	3..		25. 930	54	25. 882
4		27. 168	60	27. 102	4..		27. 170	60	27. 104	4..		27. 171	60	27. 105	4..		27. 169	59. 5	27. 104
Station 1.	8 3	23. 785	67	23. 707	Station 1..	8 18	23. 785	66	23. 710	Station 1..	8 33	23. 785	66	23. 710	Station 1..	8 48	23. 778	62	23. 711
2.		24. 454	62	24. 409	2..		24. 450	60	24. 409	2..		24. 449	59	24. 410	2..		24. 448	60	24. 407
3		25. 935	57. 5	25. 879	3..		25. 935	56	25. 882	3..		25. 938	55	25. 887	3..		25. 930	54	25. 882
4.		27. 168	60	27. 102	4..		27. 170	60	27. 104	4..		27. 172	60	27. 106	4..		27. 169	59. 5	27. 104
Station 1.	8 4	23. 785	67	23. 707	Station 1..	8 19	23. 785	66	23. 710	Station 1..	8 34	23. 783	64	23. 712	Station 1..	8 49	23. 773	61. 5	23. 707
2.		24. 454	62	24. 409	2..		24. 450	59. 5	24. 410	2..		24. 449	59	24. 410	2..		24. 449	59. 5	24. 409
3.		25. 935	57	25. 880	3..		25. 935	56	25. 882	3..		25. 935	54. 5	25. 885	3..		25. 930	54	25. 882
4.		27. 168	60	27. 102	4..		27. 170	60	27. 104	4..		27. 171	60	27. 105	4..		27. 170	59. 5	27. 105
Station 1.	8 5	23. 785	67	23. 707	Station 1..	8 20	23. 785	66	23. 710	Station 1..	8 35	23. 783	64	23. 712	Station 1..	8 50	23. 773	61	23. 708
2		24. 454	61. 5	24. 410	2..		24. 450	59. 5	24. 410	2..		24. 449	59	24. 410	2..		24. 449	59. 5	24. 409
3.		25. 935	57	25. 880	3..		25. 935	56	25. 882	3..		25. 935	54. 5	25. 885	3..		25. 930	54	25. 882
4.		27. 168	60. 5	27. 101	4..		27. 170	60	27. 104	4..		27. 171	60	27. 105	4..		27. 170	59. 5	27. 105
Station 1.	8 6	23. 785	67	23 707	Station 1..	8 21	23. 785	66	23. 710	Station 1..	8 36	23. 782	64	23. 711	Station 1..	8 51	23. 773	61	23. 708
2		24. 454	61. 5	24. 410	2..		24. 450	59. 5	24. 410	2..		24. 449	59. 5	24. 409	2..		24. 447	59. 5	24. 407
3		25. 935	57	25. 880	3..		25. 935	56	25. 882	3..		25. 935	54. 5	25. 885	3..		25. 930	54	25. 882
4		27. 168	60. 5	27. 101	4..		27. 170	60	27. 104	4..		27. 171	60	27. 105	4..		27. 160	59. 5	27. 104
Station 1	8 7	23. 785	67	23. 707	Station 1..	8 22	23. 785	66	23. 710	Station 1..	8 37	23. 782	64	23. 711	Station 1..	8 52	23. 773	61	23. 708
2		24. 454	61	24. 411	2..		24. 450	59. 5	24. 410	2..		24. 449	60	24. 408	2..		24. 447	60	24. 406
3		25. 935	56. 5	25. 881	3..		25. 935	56	25. 882	3..		25. 935	54	25. 887	3..		25. 930	54	25. 882
4		27. 169	60. 5	27. 102	4..		27. 170	60	27. 104	4..		27. 170	59. 5	27. 105	4..		27. 170	60	27. 104
Station 1	8 8	23. 785	67	23. 707	Station 1..	8 23	23. 785	66	23. 710	Station 1..	8 38	23. 780	63. 5	23. 710	Station 1..	8 53	23. 770	61	23. 705
2		24. 454	61	24. 411	2..		24. 450	59. 5	24. 410	2..		24. 449	60	24. 408	2..		24. 447	60	24. 406
3		25. 935	56. 5	25. 881	3..		25. 935	56	25. 882	3..		25. 935	54	25. 887	3..		25. 930	53. 5	25. 883
4		27. 169	60. 5	27. 102	4..		27. 170	60	27. 104	4..		27. 170	59. 5	27. 105	4..		27. 170	00	27. 104

Station 1.	8 9	23.785	67	23.707	Station 1..	8 24	23.785	66	23.710	Station 1..	8 39	23.780	63.5	23.710	Station 1..	8 54	23.770	61	23.705
2.		24.451	61	24.411	2..		24.450	59	24.411	2..		24.449	60	24.408	2..		24.447	60	24.406
3.		25.935	56	25.882	3..		25.935	56	25.882	3..		25.935	54	25.887	3..		25.930	53.5	25.883
4.		27.169	60.5	27.102	4..		27.170	60	27.104	4..		27.170	59.5	27.105	4..		27.170	60	27 104
Station 1	8 10	23.785	67	23.707	Station 1..	8 25	23.785	66	23.710	Station 1..	8 40	23.780	63	23.711	Station 1..	8 55	23.770	60.5	23.706
2		24.454	61	24.411	2..		24.449	58	24.412	2..		24.441	60	24.400	2..		24.449	60	24 406
3.		25.935	56	25 882	3..		25.935	56	25.882	3..		25.935	54	25.887	3..		25.930	53.5	25.883
4.		27.170	60.5	27.103	4..		27.170	60	27.104	4..		27.170	59.5	27.105	4..		27.169	59.5	27.104
Station 1.	8 11	23.785	67	23.707	Station 1..	8 26	23.785	66	23.710	Station 1..	8 41	23.780	63	23.711	Station 1..	8 56	23.770	60.5	23.706
2.		24.454	61	24.411	2..		24.449	58	24.412	2..		24.441	60	24.400	2..		24.450	59.5	24.410
3		25.935	56	25.882	3..		25.935	55.5	25.883	3..		25.935	54	25.887	3..		25.930	53.5	25.883
4.		27.170	60.5	27.103	4..		27.172	60	27.106	4..		27.170	59.5	27.105	4..		27.169	60	27.103
Station 1.	8 12	23.785	67	23.707	Station 1..	8 27	23.785	66	23.710	Station 1..	8 42	23.780	62.5	23.712	Station 1..	8 57	23.770	60	23.707
2.		24.454	61	24.411	2..		24.449	57.5	24.413	2..		24.448	61	24.405	2..		24.450	59.5	24.410
3		25.935	56	25.882	3..		25.935	55.5	25.883	3..		25.935	54	25.887	3..		25.932	54	25.884
4		27.170	60.5	27.103	4..		27.171	60.5	27.104	4..		27.170	59.5	27.105	4..		27.169	60	27.103
Station 1.	8 13	23.785	67	23.707	Station 1..	8 28	23.785	66	23.710	Station 1..	8 43	23.780	62.5	23.712	Station 1..	8 58	23.770	60	23.707
2.		24.454	60.5	24.412	2..		24.449	57.5	24.413	2..		24.449	61	24.406	2..		24.450	59	24.411
3.		25.935	56	25.882	3..		25.935	55.5	25.883	3..		25.935	54	25.887	3..		25.932	54	25.884
4.		27.170	60	27.104	4..		27.171	60.5	27.104	4..		27.170	59.5	27.105	4..		27.169	60	27.103
Station 1.	8 14	23.785	67	23.707	Station 1..	8 29	23.785	66	23.710	Station 1..	8 44	23.780	62	23.713	Station 1..	8 59	23.770	60	23.707
2.		24.454	60.5	24.412	2..		24.450	58	24.413	2..		24.448	60	24.407	2..		24.449	59	24.410
3.		25.935	56	25.882	3..		25.935	55.5	25.883	3..		25.935	54	25.867	3..		25.932	54	25.884
4.		27.170	60	27.104	4..		27.171	60.5	27.104	4..		27.171	60	27.105	4..		27.169	60	27.103

Station No. 1.—Summit of Mount Washington.	Elevation of barometer above sea-level	6,285.4 feet.
Station No. 2.—Above Jacob's Ladder.	Elevation of barometer above sea-level	5,553.3 feet.
Station No. 3.—Waumbeck House.	Elevation of barometer above sea-level	4,058.7 feet.
Station No. 4.—Base of Mount Washington.	Elevation of barometer above sea-level	2,898.3 feet.

NOTE.—Barometer-readings corrected for temperature and instrumental error only.

Meteorological record for June 8, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	a. m.					*a. m.*					*a. m.*					*a. m.*			
Station 1.	8 0	23.985	58	23.927	Station 1..	8 15	23.975	56	23.921	Station 1..	8 30	23.975	56	23.921	Station 1..	8 45	23.980	55	23.928
2.		24.670	66.5	24.615	2..		24.677	63	24.629	2..		24.680	68	24.622	2..		24.709	72	24.642
3.		26.181	58	26.123	3..		26.173	53	26.127	3..		26.172	53.5	26.127	3..		26.175	53.5	26.128
4.		27.425	58	27.362	4..		27.430	59	27.365	4..		27.440	60.5	27.371	4..		27.445	62	27.373
Station 1.	8 1	23.970	57.5	23.913	Station 1..	8 16	23.975	56	23.921	Station 1..	8 31	23.975	56	23.921	Station 1..	8 46	23.980	55	23.928
2.		24.670	66	24.616	2..		24.677	63	24.629	2..		24.680	68.5	24.620	2..		24.706	70	24.643
3.		26.181	58	26.123	3..		26.173	53	26.127	3..		26.172	53.5	26.127	3..		26.175	53.5	26.128
4.		27.425	58	27.362	4..		27.430	59	27.365	4..		27.439	60.5	27.370	4..		27.444	62	27.372
Station 1.	8 2	23.970	57.5	23.913	Station 1..	8 17	23.975	56	23.921	Station 1..	8 32	23.975	56	23.921	Station 1..	8 47	23.983	55	23.931
2		24.679	66	24.625	2..		24.677	63.5	24.628	2..		24.680	69	24.619	2..		24.707	70	24.644
3		26.180	57	26.125	3..		26.173	53	26.127	3..		26.172	53.5	26.127	3..		26.175	53.5	26.128
4.		27.422	58	27.359	4..		27.430	59	27.365	4..		27.440	60.5	27.371	4..		27.442	62	27.370
Station 1.	8 3	23.970	57.5	23.913	Station 1..	8 18	23.975	56	23.921	Station 1..	8 33	23.980	56	23.926	Station 1..	8 48	23.983	55	23.931
2.		24.674	65	24.622	2..		24.677	63.5	24.628	2..		24.690	70.5	24.626	2..		24.700	69	24.639
3.		26.180	57	26.125	3..		26.173	53	26.127	3..		26.172	53.5	26.127	3..		26.180	53.5	26.133
4.		27.422	58	27.359	4..		27.430	59.5	27.364	4..		27.441	61	27.371	4..		27.443	62	27.371
Station 1.	8 4	23.975	57.5	23.918	Station 1..	8 19	23.975	56	23.921	Station 1..	8 34	23.980	56	23.926	Station 1..	8 49	23.983	55	23.931
2.		24.674	65	24.622	2..		24.677	63.5	24.628	2..		24.690	70.5	24.626	2..		24.704	69	24.643
3.		26.180	56	26.127	3..		26.173	53	26.127	3..		26.172	53	26.126	3..		26.180	54	26.132
4.		27.427	58	27.364	4..		27.431	59.5	27.365	4..		27.441	61	27.371	4..		27.442	62	27.370
Station 1.	8 5	23.975	57.5	23.918	Station 1..	8 20	23.975	56	23.921	Station 1..	8 35	23.980	56	23.926	Station 1..	8 50	23.985	55	23.933
2.		24.674	64	24.624	2..		24.671	64	24.620	2..		24.690	71	24.625	2..		24.704	68	24.646
3.		26.180	55	26.129	3..		26.173	53	26.127	3..		26.173	53	26.127	3..		26.180	54	26.132
4		27.428	58	27.365	4..		27.431	59.5	27.365	4..		27.441	61	27.371	4..		27.445	62	27.373
Station 1.	8 6	23.975	57.5	23.918	Station 1..	8 21	23.975	56	23.921	Station 1..	8 36	23.980	56	23.926	Station 1..	8 51	23.985	55	23.933
2.		24.674	63.5	24.625	2..		24.671	65	24.618	2..		24.690	71	24.625	2..		24.704	68	24.646
3.		26.180	54.5	26.131	3..		26.170	53	26.124	3..		26.173	53	26.127	3..		26.180	54	26.132
4.		27.424	58	27.361	4..		27.431	60	27.364	4..		27.440	61	27.370	4..		27.447	62.5	27.373
Station 1.	8 7	23.975	57.5	23.918	Station 1..	8 22	23.975	56	23.621	Station 1..	8 37	23.980	56	23.926	Station 1..	8 52	23.986	56	23.932
2		24.674	63.5	24.625	2..		24.671	65	24.618	2..		24.691	71.5	24.625	2..		24.700	68	24.642
3.		26.180	54.5	26.131	3..		26.170	53	26.124	3..		26.173	53	26.127	3..		26.180	54	26.132
4.		27.427	58	27.364	4..		27.433	60	27.366	4..		27.440	61	27.370	4..		27.447	62.5	27.373
Station 1.	8 8	23.975	57.5	23.918	Station 1..	8 23	23.975	56	23.921	Station 1..	8 38	23.980	55.5	23.927	Station 1..	8 53	23.986	56	23.932
2.		24.674	64	24.624	2..		24.678	65.5	24.625	2..		24.691	72	24.625	2..		24.700	68	24.642
3.		26.178	54	26.130	3..		26.172	53	26.126	3..		26.173	53	26.127	3..		26.180	54	26.132
4.		27.430	58.5	27.365	4..		27.434	60	27.367	4..		27.440	61	27.370	4..		27.447	62.5	27.373

Station 1.	8 9	23.980	57.5	23.923
2.		24.674	64	24.624
3.		26.178	53.5	26.131
4.		27.429	58.5	27.365
Station 1.	8 10	23.980	57.5	23.923
2.		24.674	64	24.624
3.		26.180	53	26.134
4.		27.427	58.5	27.363
Station 1.	8 11	23.975	56.5	23.920
2.		24.677	64.5	24.626
3.		26.178	53	26.132
4.		27.430	59	27.365
Station 1.	8 12	23.975	56.5	23.920
2.		24.677	64	24.627
3.		26.178	53	26.132
4.		27.430	59	27.365
Station 1.	8 13	23.975	56.5	23.920
2.		24.677	64	24.627
3.		26.173	53	26.127
4.		27.430	59	27.365
Station 1.	8 14	23.980	56.5	23.925
2.		24.677	63.5	24.628
3		26.173	53	26.127
4.		27.430	59	27.365
Station 1..	8 24	23.975	56	23.921
2..		24.678	67	24.622
3..		26.172	53	26.126
4..		27.434	60	27.367
Station 1..	8 25	23.975	56	23.921
2..		24.678	67	24.622
3..		26.173	53	26.127
4..		27.433	60	27.366
Station 1..	8 26	23.975	56	23.921
2..		24.680	67	24.624
3..		26.173	53	26.127
4..		27.435	60	27.368
Station 1..	8 27	23.975	56	23.921
2..		24.680	67	24.624
3..		26.173	53	26.127
4..		27.437	60	27.370
Station 1..	8 28	23.975	56	23.921
2..		24.680	67	24.624
3..		26.175	52.5	26.130
4..		27.437	60	27.370
Station 1..	8 29	23.975	56	23.921
2..		24.680	67.5	24.623
3..		26.175	52.5	26.130
4..		27.440	60.5	27.371
Station 1..	8 39	23.980	55.5	23.927
2..		24.698	73	24.629
3..		26.178	53	26.132
4..		27.440	61	27.370
Station 1..	8 40	23.980	55	23.928
2..		24.699	73	24.630
3..		26.178	53	26.132
4..		27.440	61	27.370
Station 1..	8 41	23.980	55	23.928
2..		24.699	73	24.630
3..		26.175	53	26.129
4..		27.442	61	27.372
Station 1..	8 42	23.980	55	23.928
2..		24.699	73	24.630
3..		26.175	53	26.129
4..		27.442	61	27.379
Station 1..	8 43	23.980	55	23.928
2..		24.709	73	24.640
3..		26.175	53	26.129
4..		27.442	61	27.372
Station 1..	8 44	23.980	55	23.928
2..		24.709	73	24.640
3..		26.175	53.5	26.128
4..		27.444	61.5	27.373
Station 1..	8 54	23.986	57	23.930
2..		24.700	67.5	24.643
3..		26.180	54	26.132
4..		27.448	63	27.373
Station 1..	8 55	23.986	57	23.930
2..		24.700	67.5	24.643
3..		26.180	54	26.132
4..		27.448	63	27.373
Station 1..	8 56	23.986	57	23.930
2..		24.700	67	24.644
3..		26.180	54	26.132
4..		27.448	63	27.373
Station 1..	8 57	23.990	57	23.934
2..		24.700	67	24.644
3..		26.180	54	26.132
4..		27.449	63	27.374
Station 1..	8 58	23.990	57	23.934
2..		24.700	67	24.644
3..		26.180	54	26.132
4..		27.450	63	27.375
Station 1..	8 59	23.990	57	23.934
2..		24.690	66	24.636
3..		26.180	54	26.132
4..		27.450	63	27.375

Station No. 1.—Summit of Mount Washington. Elevation of barometer above sea-level ..	6,285.4 feet.
Station No. 2.—Above Jacob's Ladder. Elevation of barometer above sea-level	5,553.3 feet.
Station No. 3.—Waumbeck House. Elevation of barometer above sea-level	4,058.7 feet.
Station No. 4.—Base of Mount Washington. Elevation of barometer above sea-level......	2,898.3 feet.

NOTE.—Barometrical-readings corrected for temperature and instrumental error only.

Meteorological record for June 9, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	a. m.					*a. m.*					*a. m.*					*a. m.*			
Station 1.	8 0	24.060	68	23.980	Station 1..	8 15	24.060	65	23.987	Station 1..	8 30	24.058	66	23.983	Station 1..	8 45	24.060	67	23.982
2.		24.728	64.5	24.677	2..		24.740	67	24.684	2..		24.744	72	24.677	2..		24.750	70	24.687
2.		26.235	61	26.171	3..		26.235	60	26.173	3 .		26.235	60	26.173	3..		26.235	60.5	26.172
4.		27.448	58	27.385	4..		27.448	58	27.385	4..		27.448	58	27.385	4..		27.448	59	27.381
Station 1	8 1	24.060	68	23.980	Station 1..	8 16	24.060	65	23.987	Station 1..	8 31	24.058	66	23.983	Station 1..	8 46	24.060	67	23.982
2.		24.738	65.5	24.685	2..		24.740	67	24.684	2..		24.744	72	24.677	2..		24.757	70	24.694
3.		26.235	61	26.171	3..		26.235	00	26.173	3..		26.235	60	26.173	3..		26.235	60.5	26.172
4.		27.448	58	27.385	4..		27.448	58	27.385	4..		27.447	58	27.384	4..		27.449	59	27.381
Station 1.	8 2	24.060	68	23.980	Station 1..	8 17	24.058	65	23.985	Station 1..	8 32	24.058	66	23.983	Station 1..	8 47	24.060	67	23.982
2.		24.738	65.5	24.685	2..		24.740	67	24.684	2..		24.744	72	24.677	2..		24.750	69	24.689
3.		26.235	61	26.171	3.		26.235	60	26.173	3..		26.235	60	26.173	3..		26.235	60	26.173
4.		27.448	58	27.385	4		27.448	58	27.385	4..		27.445	58	27.382	4..		27.448	59	27.381
Station 1.	8 3	24.060	68	23.980	Station 1..	8 18	24.058	65	23.985	Station 1..	8 33	24.058	66	23.983	Station 1..	8 48	24.060	67	23.982
2.		24.738	65	24.686	2..		24.740	66.5	24.685	2..		24.747	72	24.682	2..		24.750	69	24.689
3.		26.235	61	26.171	3..		26.235	60.5	26.172	3..		26.235	60	26.173	3..		26.235	60	26.173
4.		27.448	58	27.385	4..		27.448	58	27.385	4..		27.445	58	27.382	4..		27.448	59	27.381
Station 1.	8 4	24.060	68	23.980	Station 1..	8 19	24.058	65	23.985	Station 1..	8 34	24.058	66	23.983	Station 1..	8 49	24.060	67	23.982
2.		24.738	65	24.686	2..		24.739	66.5	24.684	2..		24.747	72	24.682	2..		24.750	67.5	24.693
3.		26.235	61	26.171	3..		26.235	61	26.171	3..		26.235	60	26.173	3..		26.235	60	26.173
4.		27.448	58	27.385	4..		27.448	58	27.385	4..		27.446	58	27.383	4..		27.448	59	27.381
Station 1.	8 5	24.060	67.5	23.981	Station 1..	8 20	24.058	65	23.985	Station 1..	8 35	24.058	66	23.983	Station 1	8 50	24.060	67	23.982
2.		24.738	65	24.686	2..		24.739	67	24.683	2..		24.747	72	24.682	2..		24.750	67	24.694
3.		26.235	61	26.171	3..		26.235	60.5	26.172	3..		26.235	60	26.173	3..		26.235	60	26.173
4.		27.448	58	27.385	4..		27.448	58	27.385	4		27.446	58	27.383	4..		27.448	59	27.381
Station 1.	8 6	24.060	67	23.982	Station 1..	8 21	24.055	66	23.980	Station 1..	8 36	24.058	66	23.983	Station 1..	8 51	24.060	67	23.982
2.		24.738	65	24.686	2..		24.739	67	24.683	2..		24.750	73	24.681	2..		24.749	67	24.693
3		26.235	61	26.171	3..		26.235	61	26.171	3..		26.235	60	26.173	3..		26.235	60.5	26.172
4		27.448	58	27.385	4..		27.447	58	27.384	4..		27.447	58	27.384	4..		27.447	58.5	27.381
Station 1	8 7	24.058	66.5	23.981	Station 1..	8 22	24.055	66	23.980	Station 1..	8 37	24.060	66	23.985	Station 1..	8 52	24.060	67	23.982
2.		24.738	65	24.686	2..		24.739	68	24.681	2..		24.730	72.5	24.682	2..		24.749	66	24.695
3		26.235	61	26.171	3..		26.235	61	26.171	3.		26.235	60	26.173	3..		26.235	60.5	26.172
4		27.448	58	27.385	4..		27.448	58	27.385	4..		27.445	58	27.382	4..		27.447	58.5	27.381
Station 1	8 8	24.058	66.5	23.981	Station 1	8 23	24.055	66	23.980	Station 1..	8 38	24.060	66	23.985	Station 1..	8 53	24.060	67	23.982
2		24.738	65	24.686	2.		24.739	69	24.678	2..		24.752	72.5	24.684	2..		24.749	65	24.697
3.		26.235	61	26.171	3..		26.235	60	26.173	3..		26.235	60	26.173	3..		26.235	60.5	26.172
4.		27.447	58	27.384	4..		27.448	58	27.385	4..		27.445	58	27.382	4..		27.448	59	27.381

Station 1.	8 9	24.055	66.5	23.978	Station 1..	8 24	24.055	66	23.980	Station 1..	8 39	24.060	66	23.985	Station 1..	8 54	24.060	67	23.982
2.		24.738	65	24.686	2..		24.740	70	24.677	2..		24.752	72.5	24.684	2..		24.742	65	24.690
3.		26.235	61	26.171	3..		26.235	61	26.171	3..		26.235	60	26.173	3..		26.235	60.5	26.172
4.		27.447	58	27.384	4..		27.447	58	27.384	4..		27.447	58.5	27.383	4..		27.447	59	27.380
Station 1.	8 10	24.060	65	23.987	Station 1..	8 25	24.055	66	23.980	Station 1..	8 40	24.060	66	23.985	Station 1..	8 55	24.060	67	23.982
2.		24.738	65	24.686	2..		24.740	70	24.677	2..		24.752	72.5	24.684	2..		24.739	65	24.687
3.		26.235	61	26.171	3..		26.235	61	26.171	3..		26.235	60.5	26.172	3..		26.235	61	26.171
4.		27.447	58	27.384	4		27.447	58	27.384	4..		27.447	58.5	27.383	4..		27.447	59	27.380
Station 1.	8 11	24.060	65	23.987	Station 1..	8 26	24.055	66	23.980	Station 1..	8 41	24.060	66	23.985	Station 1..	8 56	24.000	67	23.982
2.		24.738	65	24.686	2..		24.740	70.5	24.676	2..		24.752	72.5	24.684	2..		24.739	65	24.687
3.		26.235	61	26.171	3..		26.235	61	26.171	3		26.235	60.5	26.172	3..		26.235	61	26.171
4.		27.447	58	27.384	4..		27.448	58	27.385	4..		27.447	58.5	27.383	4..		27.447	59	27.380
Station 1.	8 12	24.060	65	23.987	Station 1..	8 27	24.058	66	23.983	Station 1..	8 42	24.060	66.5	23.983	Station 1..	8 57	24.060	67	23.982
2		24.730	66	24.676	2..		24.740	71	24.675	2..		24.751	71	24.686	2..		24.740	65	24.688
3.		26.235	61	26.171	3..		26.235	60	26.173	3..		26.235	60.5	26.172	3..		26.235	61	26.171
4.		27.448	58	27.385	4..		27.448	58	27.385	4..		27.446	59	27.379	4..		27.447	59	27.380
Station 1.	8 13	24.060	65	23.987	Station 1..	8 28	24.058	66	23.983	Station 1..	8 43	24.060	66.5	23.983	Station 1..	8 58	24.060	67	23.982
2.		24.730	66	24.676	2..		24.744	71	24.679	2..		24.751	71	24.686	2..		24.740	65	24.688
3.		26.233	60	26.173	3..		26.235	61	26.173	3..		26.235	60.5	26.172	3..		26.235	61	26.171
4.		27.448	58	27.385	4..		27.448	58	27.385	4..		27.446	59	27.379	4..		27.447	59	27.380
Station 1.	8 14	24.060	65	23.987	Station 1..	8 29	24.058	66	23.983	Station 1..	8 44	24.060	66.5	23.983	Station 1..	8 59	24.060	67	23.982
2.		24.739	67	24.683	2..		24.744	72	24.677	2..		24.750	70.5	24.686	2..		24.740	65	24.688
3.		26.235	60	26.173	3.		26.235	60	26.173	3..		26.235	60.5	26.172	3..		26.235	61	26.171
4.		27 448	58	27.385	4..		27.448	58	27.385	4..		27.448	59	27.381	4..		27.447	59	27.380

Station No. 1.—Summit of Mount Washington. Elevation of barometer above sea-level .. 6,285.4 feet.
Station No. 2.—Above Jacob's Ladder. Elevation of barometer above sea-level.............. 5,553.3 feet.
Station No. 3.—Waumbeck House. Elevation of barometer above sea-level .... 4,058.7 feet.
Station No. 4.—Base of Mount Washington. Elevation of barometer above sea-level ..... 2,898.3 feet.

NOTE.—Barometer-readings corrected for temperature and instrumental error only.

Meteorological record for June 10, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	a. m.					*a. m.*					*a. m.*					*a. m.*			
Station 1.	8 0	23.900	58	23.842	Station 1..	8 15	23.900	58.5	23.841	Station 1..	8 30	23.900	60	23.837	Station 1..	8 45	23.905	60	23.842
2.		24.598	63.5	24.549	2..		24.597	62	24.552	2..		24.580	60.5	24.538	2..		24.580	59	24.541
3.		26.058	60	25.996	3..		26.060	59	26.000	3..		26.060	61	25.996	3..		26.060	62	25.993
4.		27.267	60	27.200	4..		27.264	60	27.197	4..		27.259	61	27.189	4..		27.255	61	27.185
Station 1.	8 1	23.900	58	23.842	Station 1..	8 16	23.900	58.5	23.841	Station 1..	8 31	23.900	60	23.837	Station 1..	8 46	23.905	60	23.842
2.		24.598	63.5	24.549	2..		24,597	62	24.552	2..		24.580	60.5	24.538	2..		24.580	59	24.541
3.		26.058	60	25.996	3..		26.060	60	25.998	3..		26.060	61	25.996	3..		26.060	62	25.993
4.		27.267	60	27.200	4..		27.264	60	27.197	4..		27.259	61	27.189	4..		27.255	61	27.185
Station 1.	8 2	23.900	58	23.842	Station 1..	8 17	23.900	58.5	23.841	Station 1..	8 32	23.900	60	23.837	Station 1..	8 47	23.905	60	23.842
2.		24.599	63.5	24.550	2..		24.597	61.5	24.553	2..		24.580	60.5	24.538	2..		24.580	59	24.541
3.		26.058	60	25.996	3..		26.060	60	25.998	3..		26.060	61	25.996	3..		26.060	62	25.993
4.		27.267	60	27.200	4..		27.264	60	27.197	4..		27.259	61	27.189	4..		27.255	61	27.185
Station 1.	8 3	23.900	58	23.842	Station 1..	8 18	23.900	58.5	23.841	Station 1..	8 33	23.900	60	23.837	Station 1..	8 48	23.905	60	23.842
2.		24.599	64	24.548	2..		24.597	61	24.556	2..		24.580	60.5	24.538	2..		24.580	58	24.543
3.		26.058	60	25.996	3..		26.060	60	25.998	3..		26.060	61	25.996	3..		26.060	62	25.993
4.		27.267	60	27.200	4..		27.263	60	27.196	4..		27.259	61	27.189	4..		27.256	61	27.186
Station 1.	8 4	23.900	58	23.842	Station 1..	8 19	23.900	58.5	23.841	Station 1..	8 34	23.900	60	23.837	Station 1..	8 49	23.905	60	23.842
2.		24.599	64	24.548	2..		24.597	61	24.556	2..		24.580	60.5	24.538	2..		24.580	58	24.543
3.		26.058	60	25.996	3..		26.060	59.5	25.990	3..		26.060	61	25.996	3..		26.060	62	25.993
4.		27.267	60	27.200	4..		27.263	60	27.196	4..		27.258	61	27.188	4..		27.257	61	27.187
Station 1.	8 5	23.900	58	23.842	Station 1..	8 20	23.900	59.5	23.841	Station 1..	8 35	23.900	60	23.837	Station 1..	8 50	23.905	60	23.842
2.		24.599	64	24.548	2..		24.597	61	24.556	2..		24.580	60.5	24.538	2..		24.580	58	24.548
3.		26.058	60	25.996	3..		26.060	59.5	25.999	3..		26.060	61	25.996	3..		26.060	62	25.993
4.		27.267	60	27.200	4..		27.262	60	27.193	4..		27.238	61	27.188	4..		27.258	61.5	27.187
Station 1.	8 6	23.900	58	23.842	Station 1..	8 21	23.900	59	23.840	Station 1..	8 36	23.900	60	23.837	Station 1..	8 51	23.905	60	23.842
2.		24.599	63.5	24.550	2 .		24.590	60.5	24.548	2..		24.580	60	24.539	2..		24.580	58	24.543
3.		26.058	59.5	25.997	3..		26.060	60	25.998	3..		26.060	61.5	25.995	3..		26.060	61.5	25.995
4.		27.267	60	27.200	4..		27.262	60	27.197	4..		27.258	61	27.188	4..		27.257	61.5	27.186
Station 1	8 7	23.900	58	23.842	Station 1..	8 22	23.900	59	23.840	Station 1..	8 37	23.905	60	23.842	Station 1..	8 52	23.905	60	23.842
2.		24.599	63.5	24.550	2..		24.590	61	24.547	2..		24.580	60	24.539	2..		24.580	58.5	24.542
3.		26.058	59.5	25.097	3..		26.060	60	25.998	3..		26.060	61.5	25.995	3..		26.060	62	25.905
4.		27.267	60	27.200	4..		27.262	60	27.193	4..		27.254	61	27.184	4..		27.255	61.5	27.184
Station 1.	8 8	23.900	58	23.842	Station 1..	8 23	23.900	59	23.840	Station 1..	8 38	23.905	60	23.842	Station 1..	8 53	23.905	60	23.842
2.		24.599	63	24.551	2..		24.590	61	24.547	2..		24.580	60	24.539	2..		24.580	58.5	24.542
3		26.058	59.5	25.907	3..		26.060	60	25.998	3..		26.060	61.5	25.995	3..		26.060	62	25.995
4.		27.266	60	27.109	4..		27.261	60	27.194	4..		27.254	61	27.184	4..		27.255	61.5	27.184

Station 1	8 9	23.900	58	23.842	Station 1..	8 24	23.900	59.5	23.840	Station 1..	8 39	23.905	60	23.842	Station 1..	8 54	23.905	60	23.842
2		24.599	68	24.551	2..		24.590	61	24.547	2..		24.580	60	24.539	2..		24.580	58.5	24.542
3		26.058	59	25.998	3..		26.060	60	25.998	3..		26.060	61.5	25.995	3..		26.060	62	25.995
4		27.265	60	27.198	4..		27.261	60	27.194	4..		27.236	61	27.186	4..		27.255	61.5	27.184
Station 1.	8 10	23.900	58	23.842	Station 1..	8 25	23.900	59.5	23.840	Station 1..	8 40	23.905	60	23.842	Station 1..	8 55	23.905	60	23.842
2.		24.599	62	24.554	2..		24.590	61	24.547	2..		24.580	60	24.539	2..		24.580	59	24.541
3.		26.058	59	25.998	3..		26.060	60	25.998	3..		26.060	61.5	25.995	3..		26.060	62	25.995
4		27.265	60	27.198	4..		27.261	60.5	27.192	4..		27.257	61	27.187	4..		27.255	61.5	27.184
Station 1.	8 11	23.900	58.5	23.841	Station 1..	8 26	23.900	59.5	23.840	Station 1..	8 41	23.905	60	23.842	Station 1..	8 56	23.905	60	23.842
2.		24.599	62	24.554	2..		24.590	61	24.547	2..		24.580	60	24.539	2..		24.580	59	24.541
3.		26.058	59	25.998	3..		26.060	60.5	25.997	3..		26.060	62	25.994	3..		26.060	62	25.995
4.		27.265	60	27.198	4..		27.260	61	27.190	4..		27.255	61	27.185	4..		27.254	61.5	27.183
Station 1.	8 12	23.900	58.5	23.841	Station 1..	8 27	23.900	59.5	23.840	Station 1..	8 42	23.905	60	23.842	Station 1..	8 57	23.910	60	23.847
2.		24.599	61.5	24.555	2..		24.590	60	24.549	2..		24.580	59	24.541	2..		24.579	59	24.540
3.		26.059	59	25.999	3..		26.060	61	25.996	3..		26.060	62	25.993	3..		26.060	61	25.996
4.		27.264	60	27.197	4..		27.260	61	27.190	4..		27.255	61	27.185	4..		27.253	61.5	27.182
Station 1.	8 13	23.900	58.5	23.841	Station 1..	8 28	23.900	59.5	23.840	Station 1..	8 43	23.905	60	23.842	Station 1..	8 58	23.910	60	23.847
2.		24.599	61.5	24.555	2..		24.590	60	24.549	2..		24.580	59	24.541	2..		24.580	59.5	24.540
3.		26.060	59	26.000	3..		26.060	61	25.996	3..		26.060	62	25.993	3..		26.060	61	25.996
4.		27.264	60	27.197	4..		27.260	61	27.190	4..		27.255	61	27.185	4..		27.254	61.5	27.183
Station 1.	8 14	23.900	58.5	23.841	Station 1..	8 29	23.900	60	23.837	Station 1..	8 44	23.905	60	23.842	Station 1..	8 59	23.910	60	23.847
2.		24.597	61.5	24.553	2..		24.580	60	24.539	2..		24.580	59	24.541	2..		24.580	59.5	24.540
3.		26.060	59	26.000	3..		26.060	61	25.996	3..		26.060	62	25.993	3..		26.060	61	25.996
4.		27.264	60	27.197	4..		27.259	61	27.189	4..		27.255	61	27.185	4..		27.253	61.5	27.182

Station No. 1.—Summit of Mount Washington. Elevation of barometer above sea-level.. 6,285.4 feet.
Station No. 2.—Above Jacob's Ladder. Elevation of barometer above sea-level........... 5,553.3 feet.
Station No. 3.—Waumbeck House. Elevation of barometer above sea-level.............. 4,058.7 feet.
Station No. 4.—Base of Mount Washington. Elevation of barometer above sea-level..... 2,898.3 feet.

NOTE.—Barometer-readings corrected for temperature and instrumental error only.

Meteorological recora for June 11, 1873.

minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Station 1.	2 0	23.762	67	23.684	Station 1..	2 15	23.752	65.5	23.678	Station 1..	2 30	23.760	65	23.687	Station 1..	2 45	23.768	64	23.697
2.		24.470	59	24.433	2..		24.473	61.5	24.429	2..		24.485	65.5	24.432	2..		24.495	68	24.437
3.		25.988	70	25.903	3..		25.990	65.5	25.915	3..		25.980	64	25.909	3..		25.980	63.5	25.910
4.		27.179	67	27.096	4..		27.184	67	27.101	4..		27.188	67	27.105	4..		27.200	67	27.117
Station 1.	2 1	23.762	67	23.684	Station 1..	2 16	23.752	65	23.679	Station 1..	2 31	23.760	65	23.687	Station 1..	2 46	23.768	64	23.697
2		24.470	59	24.433	2..		24.475	62	24.430	2..		24.483	66	24.429	2..		24.495	68.5	24.435
3.		25.988	70	25.903	3..		25.985	65.5	25.910	3..		25.980	64	25.909	3..		25.980	63	25.911
4.		27.179	67	27.096	4..		27.184	67	27.101	4..		27.189	67	27.106	4..		27.200	67	27.117
Station 1.	2 2	23.762	67	23.684	Station 1..	2 17	23.752	65	23.679	Station 1..	2 32	23.755	65	23.682	Station 1..	2 47	23.768	64	23.697
2.		24.470	59	24.433	2..		24.470	62.5	24.423	2..		24.485	66.5	24.430	2..		24.495	68.5	24.435
3.		25.988	69	25.905	3..		25.985	66	25.909	3..		25.980	64	25.909	3..		25.980	63	25.911
4.		27.179	07	27.096	4..		27.184	67	27.101	4..		27.190	67	27.107	4..		27.199	67	27.116
Station 1.	2 3	23.762	67	23.684	Station 1..	2 18	23.752	65	23.679	Station 1..	2 33	23.755	65	23.682	Station 1..	2 48	23.755	63.5	23.685
2.		24.468	58.5	24.432	2..		24.470	62.5	24.423	2..		24.487	66.5	24.432	2..		24.500	68.5	24.440
3.		25.988	68.5	25.906	3..		25.985	66	25.909	3..		25.980	63.5	25.910	3..		25.980	63	25.911
4.		27.179	67	27.096	4..		27.184	67	27.101	4..		27.190	67	27.107	4..		27.200	67	27.117
Station 1.	2 4	23.762	67	23.684	Station 1..	2 19	23.752	65	23.679	Station 1..	2 34	23.755	65	23.682	Station 1..	2 49	23.755	63.5	23.685
2		24.470	58	24.435	2..		24.470	63	24.422	2..		24.490	67	24.434	2..		24.495	68.5	24.435
3.		25.988	68	25.907	3..		25.985	66	25.909	3..		25.980	63.5	25.910	3..		25.980	63	25.911
4.		27.179	67	27.096	4..		27.184	67	27.101	4..		27.192	67	27.109	4..		27.200	67	27.117
Station 1	2 5	23.765	67	23.687	Station 1..	2 20	23.752	65	23.679	Station 1..	2 35	23.755	65	23.682	Station 1..	2 50	23.755	63.5	23.685
2		24.475	57.5	24.441	2..		24.475	63	24.427	2..		24.490	67.5	24.433	2..		24.495	68.5	24.435
3		25.988	67	25.910	3..		25.985	65	25.911	3..		25.980	63	25.911	3..		25.980	63	25.911
4		27.179	67	27.096	4..		27.184	67	27.101	4..		27.192	67	27.109	4..		27.200	67	27.117
Station 1.	2 6	23.770	66.5	23.693	Station 1..	2 21	23.752	65	23.679	Station 1..	2 36	23.755	65	23.682	Station 1..	2 51	23.755	63.5	23.685
2		24.475	58	24.440	2..		24.477	63.5	24.430	2..		24.488	67.5	24.431	2..		24.500	69	24.439
3		25.988	67	25.910	3..		25.985	65	25.911	3..		25.980	63	25.911	3..		25.990	63.5	25.920
4		27.179	67	27.096	4..		27.184	67	27.101	4..		27.192	67	27.109	4..		27.201	67	27.118
Station 1.	2 7	23.770	66.5	23.693	Station 1..	2 22	23.760	65	23.687	Station 1..	2 37	23.755	65	23.682	Station 1..	2 52	25.755	63.5	23.685
2		24.475	58.5	24.439	2..		24.480	64	24.430	2..		24.493	68	24.435	2..		24.405	69	24.434
3		25.988	66.5	25.911	3..		25.985	64.5	25.913	3..		25.980	63	25.911	3..		26.990	63.5	25.920
4		27.182	67	27.099	4..		27.184	67	27.101	4..		27.193	67	27.110	4..		27.205	67	27.122
Station 1	2 8	23.770	66.5	23.693	Station 1..	2 23	23.760	65	23.687	Station 1..	2 38	23.755	65	23.682	Station 1..	2 53	23.755	63.5	23.685
2		24.475	59	24.438	2..		24.478	64	24.428	2..		24.497	68	24.439	2..		24.500	69	24.439
3		25.988	66.5	25.911	3..		25.985	64.5	25.913	3..		25.980	63	25.911	3..		25.990	64	25.919
4.		27.182	67	27.099	4..		27.184	67	27.101	4..		27.193	67	27.110	4..		27.202	07	27.119

Station 1.	2 9	23.760	66	23.685
2.		24.470	59.5	24.431
3		25.990	66	25.914
4.		27.182	67	27.099
Station 1.	2 10	23.760	66	23.685
2.		24.470	60.5	24.428
3.		25.990	66	25.914
4.		27.182	67	27.099
Station 1.	2 11	23.760	66	23.685
2.		24.470	60.5	24.428
3		25.990	66	25.914
4.		27.184	67	27.101
Station 1	2 12	23.760	66	23.685
2.		24.473	61	24.430
3.		23.990	66	25 914
4.		27.184	67	27.101
Station 1.	2 13	23.760	66	23.685
2.		24.470	61	24.427
3.		25.990	66	25.914
4		27.184	67	27.101
Station 1.	2 14	23.760	66	23.685
2.		24.470	61.5	24.426
3.		25.990	65.5	25.915
4.		27.184	67	27.101
Station 1..	2 24	23.750	65	23.677
2..		24.480	64.5	24.429
3..		25.985	64.5	25.913
4..		27.188	67	27.105
Station 1..	2 25	23.750	65	23.677
2..		24.483	64.5	24.432
3..		25.985	64.5	25.913
4..		27.187	67	27.101
Station 1..	2 26	23.755	65	23.682
2..		24.475	65	24.423
3..		25.985	64.5	25.913
4..		27.188	67	27.105
Station 1..	2 27	23.755	65	23.682
2..		24.480	65	24.428
3..		23.985	64.5	25.913
4..		27.188	67	27.105
Station 1..	2 28	23.755	65	23.682
2..		24.483	65.5	24.430
3.		25.980	64.5	25.9[illegible]
4.		27.188	67	27.105
Station 1..	2 29	23.760	65	23.687
2..		24.483	65.5	24.430
3..		25.980	64	25.90[illegible]
4..		27.188	67	27.105
Station 1..	2 39	23.760	65	23.687
2..		24.490	68	24.439
3..		25.980	63.5	25.912
4..		27.193	67	27.110
Station 1..	2 40	23.760	65	23.687
2..		24.495	68	24.437
3..		25.980	63.5	25.912
4..		27.193	67	27.110
Station 1..	2 41	23.760	65	23.687
2..		24.497	68	24.439
3..		25.980	63.5	25.912
4..		27.193	67	27.110
Station 1..	2 42	23.760	65	23.687
2..		24.497	68	24.439
3..		25.980	63.5	25.910
4..		27.195	67	27.112
Station 1..	2 43	23.760	65	23.687
2..		24.495	68	24.437
3..		25.980	63.5	25.910
4..		27.197	67	27.114
Station 1..	2 44	23.760	65	23.687
2..		24.495	68	24.437
3..		25.980	63.5	25.910
4..		27.197	67	27.114
Station 1..	2 54	23.755	63	23.686
2..		24.500	69	24.434
3..		25.990	64	25.919
4..		27.203	67	27.120
Station 1..	2 55	23.755	63	23.686
2..		24.500	69	24.439
3..		25.990	64	25.919
4..		27.204	67	27.121
Station 1..	2 56	23.755	63	23.686
2..		24.498	69	24.437
3..		25.990	64.5	25.918
4..		27.202	67	27.119
Station 1..	2 57	23.755	63	23.686
2..		24.495	69.5	24.433
3..		25.990	64.5	25.918
4..		27.205	67	27.122
Station 1..	2 58	23.755	63	23.686
2..		24.495	69.5	24.433
3..		25.992	64.5	25.920
4..		27.207	67	27.124
Station 1..	2 59	23.755	63	23.686
2..		24.495	69.5	24.433
3..		25.992	64.5	25.920
4..		27.207	67	27.124

Station No. 1.—Summit of Mount Washington. Elevation of barometer above sea-level.. 6,285.4 feet.
Station No. 2.—Above Jacob's Ladder. Elevation of barometer above sea-level .... 5,553.3 feet.
Station No. 3.—Waumbeck House. Elevation of barometer above sea-level .... 4,058.7 feet.
Station No. 4.—Base of Mount Washington. Elevation of barometer above sea-level..... 2,898.3 feet.

NOTE.– Barometer-readings corrected for temperature and instrumental error only.

Meteorological record for June 12, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Station 1.	2 0	23.940	65	23.867	Station 1..	2 15	23.930	62	23.863	Station 1..	2 30	23.925	62	23.858	Station 1..	2 45	23.928	62	23.861
2		21.630	58	24.593	2..		24.628	57	21.594	2..		24.630	57	24.596	2..		24.630	59.5	24.590
3.		26.160	68	26.079	3..		26.160	65	26.086	3..		26.164	61	26.093	3..		26.161	65.5	26.086
4.		27.386	59	27.321	4..		27.390	59.5	27.324	4..		27.389	60	27.322	4..		27.390	60.5	27.321
Station 1	2 1	23.940	65	23.867	Station 1..	2 16	23.930	62	23.863	Station 1..	2 31	23.925	62	23.858	Station 1..	2 46	23.928	62	23.861
2.		21.630	57.5	24.594	2..		24.628	57	24.594	2..		24.630	57	24.596	2..		24.630	59.5	24.590
3.		26.190	68	26.079	3..		26.160	64.5	26.088	3..		26.164	64	26.093	3..		26.161	65.5	26.086
4.		27.386	59	27.321	4..		27.392	59.5	27.326	4..		27.389	60	27.322	4..		27.390	60.5	27.321
Station 1.	2 2	23.940	65	23.867	Station 1..	2 17	23.930	62	23.863	Station 1..	2 32	23.925	62	23.858	Station 1..	2 47	23.930	62	23.861
2.		24.628	57	24.594	2..		24.628	57	24.594	2..		24.630	57	24.596	2..		24.630	60	24.589
3.		26.160	67.5	26.081	3..		26.160	64.5	26.088	3..		26.165	64.5	26.093	3..		26.161	65.5	26.086
4		27.386	59	27.321	4..		27.392	59.5	27.326	4..		27.388	60	27.321	4..		27.390	60.5	27.321
Station 1.	2 3	23.940	65	23.867	Station 1..	2 18	23.930	62	23.863	Station 1..	2 33	23.925	62	23.858	Station 1..	2 48	23.925	62	23.858
2.		24.628	57	24.594	2..		24.628	57.5	24.592	2..		24.630	57	24.596	2..		24.630	60	24.589
3.		26.160	67	26.082	3..		26.162	64.5	26.090	3..		26.165	64.5	26.093	3..		26.160	65.5	26.085
4.		27.387	59	27.322	4..		27.392	59.5	27.326	4..		27.389	60.5	27.320	4..		27.389	60	27.322
Station 1.	2 4	23.940	64	22.869	Station 1..	2 19	23.930	62	23.863	Station 1..	2 34	23.025	62	23.858	Station 1..	2 49	23.925	62	23.858
2.		24.630	57	24.596	2..		24.630	57.5	24.594	2..		24.625	57	24.591	2..		24.635	60	24.594
3.		26.160	66.5	26.083	3..		26.162	64.5	26.090	3..		26.163	64	26.092	3..		26.160	65.5	26.085
4.		27.387	59	27.322	4..		27.392	59.5	27.326	4..		27.389	60.5	27.320	4..		27.389	60	27.322
Station 1.	2 5	23.940	64	23.869	Station 1..	2 20	23.930	62	23.863	Station 1..	2 35	23.930	62	23.863	Station 1..	2 50	23.922	61.5	23.856
2.		24.630	57	24.596	2..		24.625	57.5	24.589	2..		24.625	57	24.591	2..		24.635	60.5	24.593
3.		26.160	66	26.084	3..		26.162	64.5	26.090	3..		26.162	64.5	26.090	3..		26.162	65.5	26.087
4.		27.389	59	27.324	4..		27.392	59.5	27.326	4..		27.389	60.5	27.320	4..		27.389	60	27.322
Station 1.	2 6	23.935	63	23.866	Station 1..	2 21	23.930	62	23.863	Station 1..	2 36	23.930	62	23.863	Station 1..	2 51	23.922	61.5	23.856
2.		24.630	57	24.596	2..		24.625	57.5	24.589	2..		24.628	57.5	24.592	2..		24.640	61	21.597
3.		26.161	66	26.085	3..		26.162	64.5	26.090	3..		26.161	64.5	26.089	3..		26.161	66	26.085
4.		27.389	59	27.324	4..		27.392	50.5	27.326	4..		27.390	60.5	27.321	4..		27.368	60	27.321
Station 1.	2 7	23.935	63	23.860	Station 1..	2 22	23.925	62	23.858	Station 1..	2 37	23.923	62	23.856	Station 1..	2 52	23.922	61.5	23.856
2.		24.630	57	24.596	2..		24.625	57	24.591	2..		24.628	57.5	24.592	2..		24.640	61.5	24.596
3.		26.161	65.5	26.086	3..		26.162	64.5	26.090	3..		26.161	64.5	26.089	3..		26.167	66	26.091
4.		27.389	59	27.324	4..		27.392	59.5	27.326	4..		27.390	60.5	27.321	4..		27.388	60	27.321
Station 1.	2 8	23.935	63	23.866	Station 1..	2 23	23.925	62	23.858	Station 1..	2 38	23.923	62	23.856	Station 1..	2 53	23.922	61.5	23.856
2.		24.630	57	24.596	2..		24.625	57	24.591	2..		24.630	58	24.593	2..		24.640	62	24.595
3.		26.160	65.5	26.085	3..		26.162	64.5	26.090	3..		26.160	64.5	26.088	3..		26.168	66	26.092
4.		27.389	59	27.324	4..		27.392	59.5	27.326	4..		27.390	60.5	27.321	4..		27.387	60	27.320

Station 1.	2 9	23.940	63	23.871	Station 1..	2 24	23.925	62	23.858	Station 1..	2 39	23.925	62	23.858	Station 1..	2 54	23.922	61.5	23.856
2		24.630	57	24.596	2..		24.625	57	24.591	2..		24.630	58	24.593	2..		24.643	62.5	24.596
3.		26.160	65.5	26.085	3..		26.162	64	26.091	3..		26.160	64.5	26.086	3..		26.170	65.5	26.095
4		27.390	59	27.325	4.		27.391	59.5	27.325	4..		27.391	60.5	27.322	4..		27.386	60	27.319
Station 1.	2 10	23.940	63	23.871	Station 1..	2 25	23.925	62	23.858	Station 1..	2 40	23.925	62	23.858	Station 1..	2 55	23.925	61.5	23.859
2		24.630	57	24.596	2..		24.625	57	24.591	2..		24.630	58.5	24.592	2..		24.643	62.5	24.596
3.		26.160	65	26.086	3..		26.162	64	26.091	3..		26.160	65	26.086	3..		26.168	66	26.092
4		27.390	59	27.325	4..		27.390	59.5	27.324	4..		27.391	60.5	27.322	4..		27.387	60	27.320
Station 1.	2 11	23.940	63	23.871	Station 1	2 26	23.925	62	23.858	Station 1..	2 41	23.925	62	23.858	Station 1..	2 56	23.925	61.5	23.859
2.		24.630	57	24.596	2..		24.625	57	24.591	2..		24.630	58.5	24.592	2..		24.643	63	24.595
3.		26.160	65	26.086	3..		26.162	64	26.091	3..		26.160	65	26.086	3..		26.168	66	26.092
4.		27.390	59	27.325	4..		27.390	60	27.323	4..		27.391	60.5	27.322	4..		27.388	60	27.321
Station 1.	2 12	23.938	62.5	23.870	Station 1..	2 27	23.925	62	23.858	Station 1..	2 42	23.928	62	23.861	Station 1..	2 57	23.930	61	23.865
2.		24.630	57.5	24.594	2..		24.625	57	24.591	2..		24.630	59	24.591	2..		24.643	63	24.595
3.		26.160	65	26.086	3..		26.162	64	26.091	3..		26.160	65	26.086	3..		26.168	66	26.092
4.		27.390	59	27.325	4..		27.389	60	27.322	4..		27.391	60.5	27.322	4..		27.388	60	27.321
Station 1	2 13	23.938	62.5	23.870	Station 1..	2 28	23.925	62	23.858	Station 1..	2 43	23.928	62	23.861	Station 1..	2 58	23.930	61	23.865
2.		24.630	57.5	24.594	2..		24.628	57	24.594	2..		24.630	59	24.591	2..		24.643	63	24.595
3.		26.160	65	26.086	3..		26.162	64	26.091	3..		26.160	65	26.086	3..		26.168	65.5	26.091
4.		27.390	59	27.325	4..		27.389	60	27.322	4..		27.390	60.5	27.321	4..		27.389	60	27.322
Station 1.	2 14	23.938	62.5	23.870	Station 1..	2 29	23.925	62	23.858	Station 1..	2 44	23.928	62	23.861	Station 1..	2 59	23.930	61	23.865
2		24.628	57.5	24.592	2..		24.630	57	24.596	2..		24.630	59	24.591	2..		24.643	63.5	24.594
3.		26.160	65	26.086	3..		26.164	64	26.093	3..		26.160	65.5	26.085	3..		26.168	65.5	26.091
4.		27.390	59	27.325	4..		27.389	60	27.322	4..		27.390	60.5	27.321	4..		27.390	60	27.323

Station No. 1.—Summit of Mount Washington. Elevation of barometer above sea-level.. 6,285.4 feet.
Station No. 2.—Above Jacob's Ladder. Elevation of barometer above sea-level .... 5,553.3 feet.
Station No. 3.—Waumbeck House. Elevation of barometer above sea-level .... 4,858.7 feet.
Station No. 4.—Base of Mount Washington. Elevation of barometer above sea-level...... 2,898.3 feet.

NOTE.—Barometer-readings corrected for temperature and instrumental error only.

Meteorological record for June 13, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Station 1	2 0	24.100	62	24.020	Station 1..	2 15	24.095	71	24.009	Station 1..	2 30	24.090	71.5	24.003	Station 1..	2 45	24.090	71	24.004
2		24.750	62	24.705	2..		24.745	61	24.702	2..		24.743	61	24.700	2..		24.740	60	24.699
3.		26.260	68	26.177	3..		26.258	70	26.171	3..		26.260	70	26.172	3..		26.258	70.5	26.170
4		27.469	66	27.387	4..		27.471	67.5	27.385	4..		27.470	67	27.385	4..		27.470	69	27.380
Station 1	2 1	24.100	68	24.020	Station 1..	2 16	24.095	71	24.009	Station 1..	2 31	24.090	71.5	24.003	Station 1..	2 46	24.090	70	24.006
2		24.750	62	24.705	2..		24.743	60.5	24.701	2..		24.743	60.5	24.701	2..		24.740	60	24.699
3		26.260	68	26.177	3..		26.258	70	26.171	3..		26.260	70	26.172	3..		26.258	70	26.171
4		27.469	66	27.387	4..		27.471	67.5	27.385	4..		27.470	67	27.385	4..		27.469	68.5	27.380
Station 1	2 2	24.100	68	24.020	Station 1..	2 17	24.095	71	24.009	Station 1..	2 32	24.090	71.5	24.003	Station 1..	2 47	24.090	70	24.006
2		24.750	62	24.705	2..		24.743	60.5	24.701	2..		24.743	60.5	24.701	2..		24.738	60	24.697
3		26.260	68	26.177	3..		26.255	69.5	26.169	3		26.258	70.5	26.169	3..		26.255	70	26.168
4.		27.469	66	27.387	4..		27.470	68	27.383	4		27.470	67	27.385	4..		27.469	68.5	27.380
Station 1	2 3	24.100	68.5	24.019	Station 1..	2 18	24.095	71	24.009	Station 1..	2 33	24.090	71.5	24.003	Station 1..	2 48	24.090	70	24.006
2		24.770	62	24.705	2..		24.745	60.5	24.703	2..		24.743	60.5	24.701	2..		24.738	60	24.697
3		26.260	68	26.177	3..		26.255	69.5	26.169	3..		26.258	70.5	26.169	3..		26.255	69.5	26.169
4		27.469	66	27.387	4..		27.469	68	27.382	4		27.470	67	27.385	4..		27.496	68.5	27.380
Station 1	2 4	24.100	68.5	24.019	Station 1..	2 19	24.098	71	24.012	Station 1..	2 34	24.090	71	24.004	Station 1..	2 49	24.090	70	24.006
2		24.750	61.5	24.706	2..		24.745	60.5	24.703	2..		24.743	60.5	24.701	2..		24.738	60	24.697
3		26.260	68	26.177	3		26.255	69	26.170	3		26.258	70	26.170	3..		26.255	69.5	26.169
4		27.469	66	27.387	4..		27.469	68	27.382	4..		27.470	67.5	27.384	4..		27.470	69	27.380
Station 1	2 5	24.100	69	24.013	Station 1	2 20	24.098	71	24.012	Station 1..	2 35	24.090	71	24.004	Station 1..	2 50	24.090	70.5	24.005
2		24.770	61.5	24.706	2		24.743	60.5	24.701	2..		24.743	60.5	24.701	2..		24.738	59.5	24.698
3		26.260	68	26.177	3		26.255	69	26.170	3..		26.258	70	26.170	3..		26.252	69	26.167
4		27.469	66	27.387	4		27.469	68	27.382	4..		27.470	68	27.383	4..		27.469	69	27.379
Station 1	2 6	24.100	70	24.016	Station 1	2 21	24.090	71	24.004	Station 1..	2 36	24.090	71.5	24.003	Station 1	2 51	24.090	71	24.004
2		24.770	61.5	24.706	2		24.743	60.5	24.701	2..		24.743	61	24.700	2..		24.738	59.5	24.698
3		26.260	69	26.175	3		26.255	69	26.170	3..		26.258	69.5	26.171	3..		26.255	69	26.167
4		27.469	66	27.387	4.		27.471	68	27.384	4..		27.470	68	27.383	4..		27.471	69	27.381
Station 1	2 7	24.100	70	24.016	Station 1	2 22	24.090	71	24.004	Station 1..	2 37	24.090	71.5	24.003	Station 1..	2 52	24.090	71	24.004
2		24.770	61.5	24.706	2.		24.743	60.5	24.701	2..		24.743	61	24.700	2..		24.738	59.5	24.698
3		26.260	68	26.175	3..		26.258	69.5	26.171	3..		26.258	69.5	26.171	3..		26.255	69	26.167
4		27.469	66	27.387	4		27.471	68	27.384	4..		27.472	68	27.385	4.		27.471	69.5	27.380
Station 1	2 8	24.100	70	24.016	Station 1.	2 23	24.090	71.5	24.003	Station 1..	2 38	24.090	71.5	24.003	Station 1..	2 53	24.090	71.5	24.003
2		24.750	61.5	24.705	2		24.743	61.5	24.701	2		24.743	61	24.700	2..		24.738	59.5	24.698
3		26.260	68	26.175	3		26.258	69.5	26.171	3.		26.258	69.5	26.171	3.		26.255	69	26.167
4		27.470	66.5	27.386	4.		27.471	68.5	27.392	4..		27.472	68	27.385	4..		27.471	69.5	27.380

Station 1.	2 9	24.100	70	24.016
2.		24.750	61.5	24.706
3.		26.260	68	26.175
4.		27.470	66.5	27.386
Station 1	2 10	24.100	70.5	24.015
2.		24.750	61.5	24.706
3.		26.260	68	26 175
4.		27.472	67	27.387
Station 1.	2 11	24.100	70.5	24.015
2.		24.750	61.5	24.706
3.		26.260	68	26, 175
4.		27.471	67	27.386
Station 1	2 12	24.100	70.5	24.015
2		24.750	61.5	24.706
3		26.258	70	26.171
4.		27.470	67	27.385
Station 1.	2 13	24.100	70.5	24.015
2		24.748	61.5	24.704
3		26.258	70	26.171
4.		27.470	67	27.385
Station 1.	2 14	24.095	71	24.009
2.		24.745	61	24.702
3.		26.258	70	26.171
4.		27.470	67	27.385
Station 1..	2 24	24.090	71.5	24.003
2..		24.743	60.5	24.701
3..		26.258	69.5	26.171
4..		27.470	68.5	27.381
Station 1..	2 25	24.090	71.5	24.003
2..		24.743	60.5	24.701
3..		26.258	69.5	26.171
4..		27.470	68.5	27.381
Station 1..	2 26	24.090	71.5	24.003
2..		24.743	60.5	24.701
3..		26.260	69.5	26.173
4..		27.470	68	27.383
Station 1..	2 27	24.090	71.5	24.003
2..		24.743	61	24.700
3..		26.260	69.5	26.173
4..		27.470	68	27.383
Station 1..	2 28	24.090	71.5	24.003
2..		24 743	61	24.700
3..		26.260	70	26.172
4..		27.470	68	27.383
Station 1..	2 29	24.090	71.5	24.003
2..		24.743	61	24.700
3..		26.260	70	26.172
4..		27.470	68	27.383
Station 1..	2 30	24.090	71.5	24.003
2 ..		24.743	61	24.700
3..		26.258	69.5	26.171
4..		27.472	68	27.385
Station 1..	2 40	24.090	71.5	24.003
2..		24.743	60.5	24.701
3..		26.260	70	26.173
4..		27.472	68	27.385
Station 1..	2 41	24.090	71	24.004
2..		24.743	60	24.702
3..		26.260	70	26.173
4..		27.470	68.5	27.381
Station 1..	2 42	24.090	71	24.004
2..		24.740	60	24.699
3..		26.260	70.5	26.172
4..		27.470	69	27.380
Station 1..	2 43	24.090	71	24.004
2..		24.740	60	24.699
3..		26.260	70.5	26.172
4..		27.471	69	27.381
Station 1..	2 44	24.090	71	24.004
2..		24.740	60	26.699
3..		26.260	70.5	26.172
4..		27.470	69	27.380
Station 1..	2 54	24.090	71.5	24.003
2..		24.735	59.5	24.695
3..		26.255	69	26.167
4..		27.470	69	27.380
Station 1..	2 55	24.090	71.5	24.003
2..		24.735	59	24.696
3..		26.255	69	26.167
4..		27.470	69	27.380
Station 1..	2 56	24.090	71.5	24.003
2..		24.735	59	24.696
3..		26.255	69	26.167
4..		27.470	69	27.380
Station 1..	2 57	24.090	71.5	24.003
2..		24.735	59	24.696
3..		26.250	68.5	26.166
4..		27.470	69	27.380
Station 1..	2 58	24.090	71.5	24.003
2..		24.735	59	24.696
3..		26.250	68.5	26.166
4..		27.469	69.5	27.378
Station 1..	2 59	24.090	71.5	24.003
2..		24.735	59	24.696
3..		26.250	68.5	26.166
4..		27.470	70	27.378

Station No. 1.—Summit of Mount Washington. Elevation of barometer above sea-level.. 6,285.4 feet.
Station No. 2.—Above Jacob's Ladder. Elevation of barometer above sea-level.......... 5,553.3 feet.
Station No. 3.—Waumbeck House. Elevation of barometer above sea-level............... 4,058.7 feet.
Station No. 4.—Base of Mount Washington. Elevation of barometer above sea-level..... 2,898.3 feet.

NOTE.—Barometer-readings corrected for temperature and instrumental error only.

Meteorological record for June 14, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Station 1	2 0	23.955	64	23.884	Station 1	2 15	23.960	65	23.877	Station 1	2 30	23.950	67	23.872	Station 1	2 45	23.950	65	23.877
2		24.615	65	24.563	2		24.615	67	24.550	2		24.618	68.5	24.558	2		24.620	67	24.504
3		26.095	64	26.024	3		26.093	65	26.021	3		26.090	64	26.019	3		26.095	64.5	26.022
4		27.314	65.5	27.233	4		27.311	67	27.226	4		27.316	67	27.231	4		27.319	68	27.232
Station 1	2 1	23.950	64	23.870	Station 1	2 16	23.950	66	23.875	Station 1	2 31	23.950	66.5	23.874	Station 1	2 46	23.950	65	23.877
2		24.615	65	24.563	2		24.615	67	24.559	2		24.618	68.5	24.558	2		24.620	67	24.564
3		26.095	64	26.024	3		26.095	65	26.021	3		26.090	63.5	26.020	3		26.095	64	26.024
4		27.314	66	27.232	4		27.313	67	27.228	4		27.316	67	27.231	4		27.318	68	27.231
Station 1	2 2	23.950	64	23.879	Station 1	2 17	23.950	66	23.875	Station 1	2 32	23.950	66.5	23.874	Station 1	2 47	23.950	65	23.877
2		24.615	65	24.563	2		24.615	67	24.559	2		24.618	68.5	24.558	2		24.620	67.5	24.563
3		26.095	64	26.024	3		26.095	65	26.021	3		26.090	63.5	26.020	3		26.090	63.5	26.020
4		27.312	66	27.230	4		27.313	67	27.228	4		27.316	67	27.231	4		27.318	68	27.231
Station 1	2 3	23.955	65	23.882	Station 1	2 18	23.950	66	23.875	Station 1	2 33	23.950	66	23.875	Station 1	2 48	23.950	65	23.877
2		24.615	65	24.563	2		24.615	67	24.559	2		24.618	68.5	24.558	2		24.620	67	24.564
3		26.095	64	26.024	3		26.095	65	26.021	3		26.090	63.5	26.020	3		26.088	63	26.019
4		27.311	66	27.229	4		27.313	67	27.228	4		27.316	67	27.231	4		27.318	68	27.231
Station 1	2 4	23.955	65	23.882	Station 1	2 19	23.950	66	23.875	Station 1	2 34	23.950	65.5	23.876	Station 1	2 49	23.950	65	23.877
2		24.615	65	24.563	2		24.618	67.5	24.561	2		24.618	69	24.557	2		24.620	67	24.564
3		26.095	64.5	26.023	3		26.095	65	26.021	3		26.090	63	26.021	3		26.088	63	26.019
4		27.312	66.5	27.228	4		27.313	67	27.228	4		27.316	67	27.231	4		27.318	68	27.231
Station 1	2 5	23.955	65	23.882	Station 1	2 20	23.950	66	23.875	Station 1	2 35	23.950	65	23.877	Station 1	2 50	23.950	65	23.877
2		24.615	65.5	24.562	2		24.618	67.5	24.561	2		24.618	69	24.557	2		24.620	67	24.564
3		26.095	65	26.021	3		26.098	64.5	26.026	3		26.090	63	26.021	3		26.088	63	26.019
4		27.311	66.5	27.227	4		27.315	67	27.230	4		27.316	67	27.231	4		27.316	68	27.229
Station 1	2 6	23.955	65	23.882	Station 1	2 21	23.950	66	23.875	Station 1	2 36	23.950	65	23.877	Station 1	2 51	23.950	65	23.877
2		24.615	65.5	24.562	2		24.618	68	24.560	2		24.618	69	24.557	2		24.620	67	24.564
3		26.095	64.5	26.023	3		26.092	64.5	26.020	3		26.090	64.5	26.018	3		26.085	63	26.016
4		27.311	67	27.226	4		27.315	67	27.230	4		27.315	67	27.230	4		27.316	68	27.229
Station 1	2 7	23.955	65	23.882	Station 1	2 22	23.950	66.5	23.874	Station 1	2 37	23.950	65	23.877	Station 1	2 52	23.950	65	23.877
2		24.615	66	24.561	2		24.618	68	24.560	2		24.620	69.5	24.558	2		24.620	67	24.564
3		26.005	64.5	26.023	3		26.092	65	26.018	3		26.090	64.5	26.018	3		26.085	63	26.016
4		27.312	67	27.227	4		27.317	67	27.232	4		27.315	67	27.230	4		27.316	68	27.229
Station 1	2 8	23.955	65	23.882	Station 1	2 23	23.950	67	23.872	Station 1	2 38	23.950	65	23.877	Station 1	2 53	23.950	64.5	23.878
2		24.615	66.5	24.560	2		24.618	68	24.560	2		24.620	69.5	24.558	2		24.618	66.5	24.563
3		26.095	64.5	26.023	3		26.092	64.5	26.020	3		26.090	64.5	26.018	3		26.085	63	26.016
4		27.315	67	27.230	4		27.317	67	27.232	4		27.317	67.5	27.231	4		27.316	68	27.229

Station 1	2 9	23.955	65	23.882
2		24.615	67	24.559
3		26.095	64.5	26.023
4		27.313	67	27.228
Station 1	2 10	23.950	65	23.877
2		24.615	67	24.559
3		26.095	64.5	26.023
4		27.313	67	27.228
Station 1	2 11	23.950	65	23.877
2		24.615	67.5	24.558
3		26.095	65	26.021
4		27.313	67	27.228
Station 1	2 12	23.950	65	23.877
2		24.615	67.5	24.558
3		26.095	65	26.021
4		27.312	67	27.227
Station 1	2 13	23.950	65	23.877
2		24.615	67.5	24.558
3		26.095	65	26.021
4		27.312	67	27.227
Station 1	2 14	23.950	65	23.877
2		24.615	67.5	24.558
3		26.095	65	26.021
4		27.312	67	27.227
Station 1	2 24	23.950	67	23.872
2		24.618	68	24.560
3		26.092	65	26.018
4		27.318	67	27.233
Station 1	2 25	23.950	67	23.872
2		24.618	68.5	24.558
3		26.092	65	26.018
4		27.318	67	27.233
Station 1	2 26	23.950	67	23.872
2		24.618	68.5	24.558
3		26.092	65	26.018
4		27.316	67	27.231
Station 1	2 27	23.950	67	23.872
2		24.618	68.5	24.558
3		26.092	55	26.018
4		27.315	67	27.230
Station 1	2 28	23.950	67	23.872
2		24.618	69	24.557
3		26.092	65	26.018
4		27.317	67	27.232
Station 1	2 29	23.950	67	23.872
2		24.618	69	24.557
3		26.090	64.5	26.018
4		27.317	67	27.232
Station 1	2 39	23.950	65	23.877
2		24.620	69	24.559
3		26.090	64.5	26.018
4		27.317	67.5	27.231
Station 1	2 40	23.950	65	23.877
2		24.620	68	24.562
3		26.090	65	26.016
4		27.319	67.5	27.233
Station 1	2 41	23.950	65	23.877
2		24.620	67.5	24.563
3		26.090	65	26.016
4		27.313	68	27.226
Station 1	2 42	23.950	65	23.877
2		24.620	67.5	24.563
3		26.095	64.5	26.022
4		27.315	68	27.228
Station 1	2 43	23.950	65	23.877
2		24.620	67	24.564
3		26.095	64.5	26.022
4		27.315	68	27.228
Station 1	2 44	23.950	65	23.877
2		24.620	67	24.564
3		26.095	64.5	26.022
4		27.317	68	27.230
Station 1	2 54	23.950	64	23.879
2		24.618	65.5	24.563
3		26.085	63	26.016
4		27.316	68	27.229
Station 1	2 55	23.950	64	23.879
2		24.618	65	24.562
3		26.085	63	26.016
4		27.316	68	27.229
Station 1	2 56	23.950	64	23.879
2		24.618	64.5	24.561
3		26.085	63	26.016
4		27.316	68	27.229
Station 1	2 57	23.950	64	23.879
2		24.615	64.5	24.559
3		26.085	63.5	26.015
4		27.317	68	27.230
Station 1	2 58	23.950	64	23.879
2		24.615	65	24.558
3		26.085	63.5	26.015
4		27.318	68	27.231
Station 1	2 59	23.950	64	23.879
2		24.615	65	24.558
3		26.085	63.5	26.015
4		27.319	68	27.232

Station No. 1.—Summit of Mount Washington. Elevation of barometer above sea-level.. 6,285.4 feet.
Station No. 2.—Above Jacob's Ladder. Elevation of barometer above sea-level .... 5,553.3 feet.
Station No. 3.—Waumbeck House. Elevation of barometer above sea-level.............. 4,058.7 feet.
Station No. 4.—Base of Mount Washington. Elevation of barometer above sea-level ..... 2,898.3 feet.

NOTE.—Barometer-readings corrected for temperature and instrumental error only.

Meteorological record for June 15, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					p. m.					p. m.					p. m.			
Station 1	2 0	23.850	62	23.783	Station 1	2 15	23.847	63.5	23.777	Station 1	2 30	23.846	64	23.775	Station 1	2 45	23.840	64.5	23.768
2		24.500	63.5	24.451	2		24.500	63.5	24.451	2		24.495	62	24.450	2		24.490	62	24.445
3		25.970	65	25.896	3		25.970	64.5	25.898	3		25.968	63.5	25.898	3		25.962	62.5	25.894
4		27.180	71	27.088	4		27.180	71	27.088	4		27.178	70	27.088	4		27.174	70	27.084
Station 1	2 1	23.850	62.5	23.782	Station 1	2 16	23.847	63.5	23.777	Station 1	2 31	23.846	64	23.775	Station 1	2 46	23.840	64.5	23.768
2		24.500	63.5	24.451	2		24.500	63.5	24.451	2		24:495	62	24.450	2		24.490	62	24.445
3		25.969	65	25.895	3		25.970	64.5	25.898	3		25.970	63	25.901	3		25.965	62.5	25.897
4		27.180	71	27.088	4		27.180	71	27.088	4		27.178	70	27.088	4		27.174	70	27.084
Station 1	2 2	23.848	62.5	23.780	Station 1	2 17	23.847	63.5	23.777	Station 1	2 32	23.845	64	23.774	Station 1	2 47	23.840	64.5	23.768
2		24.500	63.5	24.451	2		24.500	64	24.452	2		24.495	62.5	24.448	2		24.490	62	24.445
3		25.968	65	25.894	3		25.968	64	25.897	3		25.970	63	25.901	3		25.965	62.5	25.897
4		27.180	71	27.088	4		27.179	70.5	27.088	4		27.177	70	27.087	4		27.174	70	27.084
Station 1	2 3	23.848	62.5	23.780	Station 1	2 18	23.847	63.5	23.777	Station 1	2 33	23.844	64	23.773	Station 1	2 48	23.840	64.5	23.768
2		24.503	63.5	24.454	2		24.500	63	24.452	2		24.495	62.5	24.448	2		24.490	62	24.445
3		25.968	65	25.894	3		25.970	64.5	25.898	3		25.970	63	25.901	3		25.965	62.5	25.897
4		27.180	71	27.088	4		27.179	70.5	27.088	4		27.176	70	27.086	4		27.175	70	27.085
Station 1	2 4	23.848	62.5	23.780	Station 1	2 19	23.847	63.5	23.777	Station 1	2 34	23.844	64.5	23.772	Station 1	2 49	23.840	64.5	23.768
2		24.500	63.5	24.451	2		24.498	62.5	24.451	2		24.495	62.5	24.448	2		24.490	62	24.445
3		25.968	65	25.894	3		25.970	64.5	25.898	3		25.970	63	25.901	3		25.965	62.5	25.897
4		27.181	71	27.089	4		27.179	70.5	27.088	4		27.176	70	27.086	4		27.175	70	27.085
Station 1	2 5	23.845	63	23.776	Station 1	2 20	23.846	63.5	23.776	Station 1	2 35	23.844	64.5	23.772	Station 1	2 50	23.840	64.5	23.768
2		24.500	63.5	24.451	2		24.498	62.5	24.451	2		24.493	62.5	24.446	2		24.490	62	24.445
3		25.970	65	25.896	3		25.970	64	25.899	3		25.970	63	25.901	3		25.963	62.5	25.895
4		27.182	71	27.090	4		27.179	70.5	27.088	4		27.176	70	27.086	4		27.176	70	27.086
Station 1	2 6	23.846	63.5	23.776	Station 1	2 21	23,846	64	23.775	Station 1	2 36	23.843	64.5	23.771	Station 1	2 51	23.840	64.5	23.768
2		24.503	63.5	24.454	2		24.498	62.5	24.451	2		24.493	62.5	24.446	2		24.490	62	24.445
3		25.970	65	25.896	3		25.970	64	25.899	3		25.965	62.5	25.897	3		25.963	62.5	25.895
4		27.182	71	27.000	4		27.179	70.5	27.088	4		27.175	70	27.085	4		27.176	70	27.086
Station 1	2 7	23.846	63.5	23.776	Station 1	2 22	23.846	64	23.775	Station 1	2 37	23.843	64.5	23.771	Station 1	2 52	23.839	64.5	23.767
2		24.503	63.5	24.454	2		24.498	62.5	24.451	2		24.490	62	24.445	2		24.490	62	24.445
3		25.970	65	25.896	3		25.970	64	25.899	3		25.965	62.5	25.896	3		25.963	62.5	25.895
4		27.182	71	27.090	4		27.178	70	27.088	4		27.175	70	27.085	4		27.176	70	27.086
Station 1	2 8	23.847	63.5	23.777	Station 1	2 23	23.846	64	23.775	Station 1	2 38	23.841	64.5	23.769	Station 1	2 53	23.839	64.5	23.767
2		24.503	63.5	24.454	2		24.498	62.5	24.451	2		24.490	62	24.445	2		24.490	62	24.445
3		25.970	65	25.896	3		25.970	64	25.899	3		25.965	62.5	25.897	3		25.963	62.5	25.895
4		27.182	71	27.090	4		27.178	70	27.088	4		27.170	70	27.080	4		27.176	70	27.086

Station 1.	2 9	23.847	63.5	23.777	Station 1..	2 24	23.846	64	23.775	Station 1..	2 39	23.841	64.5	23.769	Station 1..	2 54	23.839	64.5	23.767
2.		24.503	63.5	24.454	2..		24.498	62.5	24.451	2..		24.490	62	24.445	2..		24.490	62	24.445
3		25.970	65	25.896	3..		25.968	64	25.897	3..		25.965	62.5	25.897	3..		25.902	62.5	25.894
4		27.182	71	27.090	4..		27.178	70	27.088	4..		27.170	70	27.080	4..		27.176	70	27.086
Station 1	2 10	23.847	63.5	23.777	Station 1..	2 25	23.846	64	23.775	Station 1..	2 40	23.841	64.5	23.769	Station 1..	2 55	23.839	64.5	23.767
2.		24.503	63.5	24.454	2..		24.498	62	24.453	2..		24.490	62	24.445	2..		24.490	62	24.445
3.		25.972	65	25.898	3..		25.968	64	25.897	3..		25.960	62.5	25.892	3..		25.962	62.5	25.894
4		27.182	71	27.090	4..		27.178	70	27.088	4..		27.170	70	27.080	4..		27.176	70	27.086
Station 1	2 11	23.847	63.5	23.777	Station 1..	2 26	23.846	64	23.775	Station 1..	2 41	23.840	64.5	23.768	Station 1..	2 56	23.838	64.5	23.767
2		24.503	63.5	24.454	2..		24.495	62	24.450	2..		24.490	62	24.445	2..		24.490	62	24.445
3.		25.972	65	25.898	3..		25.968	64	25.897	3..		25.962	62.5	25.894	3..		25.962	62.5	25.894
4.		27.182	71	27.090	4..		27.178	70	27.088	4..		27.170	70	27.080	4..		27.177	70	27.087
Station 1.	2 12	23.847	63.5	23.777	Station 1..	2 27	23.846	64	23.775	Station 1..	2 42	23.840	64.5	23.768	Station 1..	2 57	23.838	64.5	23.767
2.		24.500	63.5	24.451	2..		24.495	62	24.450	2..		24.490	62	24.445	2..		24.490	62	24.445
3		25.970	65	25.896	3..		25.968	64	25.897	3..		25.962	62.5	25.894	3..		25.965	62.5	25.897
4		27.182	71	27.090	4..		27.178	70	27.088	4..		27.170	70	27.080	4..		27.177	70	27.087
Station 1.	2 13	23.847	63.5	23.777	Station 1..	2 28	23.846	64	23.775	Station 1..	2 43	23.840	64.5	23.768	Station 1..	2 58	23.838	64.5	23.767
2		24.500	63.5	24.451	2..		24.495	62	24.450	2..		24.490	62	24.445	2..		24.490	62	24.445
3		25.970	64.5	25.898	3..		25.968	63.5	25.898	3..		25.962	62.5	25.894	3..		25.965	62.5	25.897
4		27.182	71	27.090	4..		27.178	70	27.088	4..		27.174	70	27.084	4..		27.177	70	27.087
Station 1	2 14	23.847	63.5	23.777	Station 1..	2 29	23.846	64	23.775	Station 1..	2 44	23.840	64.5	23.768	Station 1..	2 59	23.838	64.5	23.767
2.		24.502	63.5	24.453	2..		24.495	62	24.450	2..		24.490	62	24.445	2..		24.490	62	24.445
3.		25.970	64.5	25.898	3..		25.967	63.5	25.897	3..		25.962	62.5	25.894	3..		25.965	62.5	25.897
4.		27.180	71	27.088	4..		27.178	70	27.088	4..		27.174	70	27.084	4..		27.178	70	27.088

Station No. 1.—Summit of Mount Washington. Elevation of barometer above sea-level.. 6,285.4 feet.
Station No. 2.—Above Jacob's Ladder. Elevation of barometer above sea-level........... 5,553.3 feet.
Station No. 3.—Waumbeck House. Elevation of barometer above sea-level............... 4,058.7 feet.
Station No. 4.—Base of Mount Washington. Elevation of barometer above sea-level ..... 2,898.3 feet.

NOTE.—Barometer-readings corrected for temperature and instrumental error only.

Meteorological record for June 16, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					p. *m.*			
Station 1.	2 0	23.820	61	23.755	Station 1..	2 15	23.819	60.5	23.755	Station 1..	2 30	23.811	60.5	23.747	Station 1..	2 45	23.807	60.5	23.743
2.		24.500	64.5	24.449	2..		24.497	64	24.447	2..		24.485	63	24.437	2..		24.478	63	24.430
3		25.980	69	25.897	3..		25.978	68	25.897	3..		25.980	67.5	25.901	3.		25.971	70	25.886
4.		27.170	77.5	27.062	4..		27.166	79	27.054	4..		27.150	76.5	27.044	4..		27.149	76	27.045
Station 1.	2 1	23.820	61	23.755	Station 1..	2 16	23.819	60.5	23.755	Station 1..	2 31	23.809	60.5	23.745	Station 1..	2 46	23.806	60.5	23.742
2.		24.503	64.5	24.452	2..		24.495	64	24.445	2..		24.485	63	24.437	2..		24.478	63	24.430
3.		25.980	69	25.897	3..		25.978	68	25.697	3..		25.980	67.5	25.901	3..		25.973	70	25.888
4.		27.170	77.5	27.062	4..		27.163	78	27.054	4..		27.150	76.5	27.044	4..		27.149	76.5	27.043
Station 1.	2 2	23.820	61	23.755	Station 1..	2 17	23.819	60.5	23.755	Station 1..	2 32	23.810	60.5	23.746	Station 1..	2 47	23.806	60.5	23.742
2		24.503	64.5	24.452	2..		24.493	64	24.443	2..		24.485	63	24.437	2..		24.478	63	24.430
3.		25.980	69	25.897	3..		25.978	68	25.897	3..		25.982	67.5	25.903	3..		25.973	69	25.890
4.		27.170	77.5	27.062	4..		27.163	77	27.056	4..		27.150	76.5	27.044	4..		27.148	76.5	27.042
Station 1.	2 3	23.820	60.5	23.756	Station 1..	2 18	23.818	60.5	23.754	Station 1..	2 33	23.808	60.5	23.744	Station 1..	2 48	23.804	60.5	23.740
2.		24.500	64.5	24.449	2..		24.493	64	24.443	2..		24.483	63	24.435	2..		24.480	62.5	24.433
3.		25.980	69	25.897	3..		25.972	66.5	25.895	3..		25.982	67.5	25.903	3..		25.973	69	25.890
4		27.168	77.5	27.060	4..		27.163	77	27.056	4..		27.150	76.5	27.044	4..		27.148	76.5	27.042
Station 1	2 4	23.820	60.5	23.756	Station 1..	2 19	23.818	60.5	23.754	Station 1..	2 34	23.808	60.5	23.744	Station 1..	2 49	23.803	60.5	23.739
2.		24.498	64.5	24.447	2..		24.490	64	24.440	2..		24.483	63	24.435	2..		24.478	62.5	24.431
3.		25.980	69	25.897	3..		25.972	66.5	23.895	3..		25.982	68	25.901	3..		25.973	69	25.890
4.		27.168	77.5	27.060	4..		27.163	77	27.056	4..		27.150	76.5	27.044	4..		27.147	76.5	27.041
Station 1.	2 5	23.820	60.5	23.756	Station 1..	2 20	23.818	60.5	23.754	Station 1..	2 35	23.807	60.5	23.743	Station 1..	2 50	23.803	60.5	23.730
2.		24.495	64.5	24.443	2..		24.488	64	24.438	2..		24.483	63	24.435	2..		24.473	62.5	24.426
3.		25.980	69	25.897	3..		25.972	66.5	25.895	3..		25.982	68	25.901	3..		25.976	71	25.838
4.		27.168	77.5	27.060	4..		27.163	77	27.056	4..		27.150	76.5	27.044	4..		27.146	76.5	27.040
Station 1.	2 6	23.820	60.5	23.756	Station 1.	2 21	23.818	60.5	23.754	Station 1..	2 36	23.807	60.5	23.743	Station 1..	2 51	23.803	60.5	23.739
2.		24.495	64	24.445	2..		24.488	64	24.438	2..		24.483	63	24.435	2..		24.473	62.5	24.426
3.		25.978	69	25.895	3		25.972	66.5	25.895	3..		25.980	69	25.897	3..		25.976	71	25.888
4.		27.168	77.5	27.060	4..		27.162	77	27.055	4..		27.150	76.5	27.044	4..		27.145	77	27.038
Station 1.	2 7	23.820	60.5	23.756	Station 1..	2 22	23.818	60.5	23.754	Station 1..	2 37	23.807	60.5	23.743	Station 1..	2 52	23.803	60.5	23.739
2.		24.493	64	24.443	2..		24.488	64	24.438	2..		24.483	63	24.435	2..		24.472	62.5	24.425
3.		25.978	69	25.895	3..		25.972	66	25.896	3..		25.980	69	25.897	3..		25.978	71	25.890
4		27.168	77.5	27.060	4..		27.162	77	27.055	4..		27.150	76.5	27.044	4..		27.140	77	27.033
Station 1	2 8	23.820	60.5	23.756	Station 1..	2 23	23.818	60.5	23.754	Station 1..	2 38	23.807	60.5	23.743	Station 1..	2 53	23.801	60.5	23.737
2		24.493	64	24.443	2..		24.488	64	24.438	2..		24.483	63	24.435	2..		24.477	62.5	24.430
3.		25.978	69	25.895	3..		25.972	66	25.890	3 .		25.978	60	25.895	3..		25.979	71.5	25.890
4.		27.168	77.5	27.060	4..		27.162	77	27.055	4..		27.150	76.5	27.044	4..		27.140	77	27.033

Station 1.	2 9	23.820	60.5	23.756	Station 1..	2 24	23.818	60.5	23.754	Station 1..	2 39	23.807	60.5	23.743	Station 1..	2 54	23.801	60	23.738
2.		24.490	64	24.440	2..		24.490	64	24.440	2..		24.482	63	24.434	2..		24.477	62.5	24.430
3.		25.978	69	25.895	3..		25.972	68	25.896	3.		25.978	70	25.893	3.		25.972	71	25.884
4.		27.168	77.5	27.060	4..		27.162	77	27.055	4..		27.150	76.5	27.044	4..		27.140	76.5	27.034
Station 1.	2 10	23.820	60.5	23.756	Station 1..	2 25	23.816	60.5	23.752	Station 1	2 40	23.807	60.5	23.743	Station 1..	2 55	23.801	60	23.738
2.		24.495	61	24.445	2..		24.490	64	24.440	2..		24.483	63	24.434	2..		24.475	62.5	24.428
3.		25.978	69	25.895	3..		25.975	66.5	25.898	3..		25.975	70	25.890	3..		25.968	71	25.880
4.		27.168	77.5	27.060	4..		27.162	77	27.055	4..		27.150	76.5	27.044	4..		27.140	77	27.033
Station 1.	2 11	23.820	60.5	23.756	Station 1..	2 26	23.816	60.5	23.752	Station 1..	2 41	23.807	60.5	23.743	Station 1..	2 56	23.801	60	23.738
2.		24.495	64	24.445	2..		24.485	64	24.435	2..		24.482	63	24.434	2..		24.477	62.5	24.430
3.		25.978	69	25.895	3..		25.975	66.5	25.898	3..		25.975	70	25.890	3..		25.968	71	25.880
4.		27.168	77.5	27.060	4..		27.162	77	27.055	4.		27.150	76.5	27.044	4..		27.140	77	27.033
Station 1.	2 12	23.819	60.5	23.755	Station 1..	2 27	23.815	60.5	23.751	Station 1	2 42	23.807	60.5	23.743	Station 1..	2 57	23.801	60	23.738
2.		24.495	64	24.445	2..		24.485	63.5	24.436	2..		24.482	63	24.434	2..		24.477	62.5	24.430
3.		25,978	69	25.895	3..		25.975	66.5	25.898	3..		25.972	71	25.884	3		25.962	70	25.877
4.		27.165	79.5	27.052	4..		27.160	77	27.053	4..		27.149	76	27.045	4..		27.140	77	27.033
Station 1	2 13	23.819	60.5	23.755	Station 1..	2 28	23.813	60.5	23.749	Station 1..	2 43	23.807	60.5	23.743	Station 1..	2 58	23.800	60	23.737
2.		24.495	64	24.445	2..		24.485	63.5	24.436	2..		24.480	63	24.432	2..		24.477	62.5	24.430
3.		25.978	68	25.897	3..		25.978	67	25.900	3		25.972	71	25.884	3..		25.960	70	25.875
4.		27.165	79	27.053	4..		27.159	76.5	27.053	4..		27.149	76	27.045	4		27.140	77	27.033
Station 1.	2 14	23.819	60.5	23.755	Station 1..	2 29	23.813	60.5	23.749	Station 1..	2 44	23.807	60.5	23.743	Station 1..	2 59	23.800	60	23.737
2.		24.497	64	24.447	2..		24.485	63.5	24.436	2		24.480	63	24.432	2..		24.477	62.5	24.430
3.		25.978	68	25.897	3..		25.978	67	25.900	3..		25.971	70	25.886	3..		25.958	70	25.873
4.		27.166	79	27.054	4..		27.151	76	27.047	4..		27.149	76	27.045	4..		27.140	77	27.033

Station No. 1.—Summit of Mount Washington. Elevation of barometer above sea-level.. 6,285.4 feet.
Station No. 2.—Above Jacob's Ladder. Elevation of barometer above sea-level........... 5,153.3 feet.
Station No. 3.—Waumbeck House. Elevation of barometer above sea-level .... 4,058.7 feet.
Station No. 4.—Base of Mount Washington. Elevation of barometer above sea-level ..... 2,898.3 feet.

NOTE.—Barometer-readings corrected for temperature and instrumental error only.

Meteorological record for June 16, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					p. m.			
Station 1.	2 0	23. 820	61	23. 755	Station 1..	2 15	23. 819	60. 5	23. 755	Station 1..	2 30	23. 811	60. 5	23. 747	Station 1..	2 45	23. 807	60. 5	23. 743
2.		24. 500	64. 5	24. 449	2..		24. 497	64	24. 447	2..		24. 485	63	24. 437	2..		24. 478	63	24. 430
3		23. 980	69	25. 897	3..		25. 978	68	25. 897	3..		25. 980	67. 5	25. 901	3.		23. 971	70	25. 886
4.		27. 170	77. 5	27. 062	4..		27. 166	79	27. 054	4..		27. 150	76. 5	27. 044	4..		27. 149	76	27. 045
Station 1.	2 1	23. 820	61	23. 755	Station 1..	2 16	23. 819	60. 5	23. 755	Station 1..	2 31	23. 809	60. 5	23. 745	Station 1..	2 46	23. 806	60. 5	23. 742
2.		24. 503	64. 5	24. 452	2..		24. 495	64	24. 445	2..		24. 485	63	24. 437	2..		24. 478	63	24. 430
3.		25. 980	69	25. 897	3..		25. 978	68	25. 897	3..		25. 980	67. 5	25. 901	3..		25. 973	70	25. 888
4.		27. 170	77. 5	27. 062	4..		27. 163	78	27. 054	4..		27. 150	76. 5	27. 044	4..		27. 149	76. 5	27. 043
Station 1.	2 2	23. 820	61	23. 755	Station 1..	2 17	23. 819	60. 5	23. 755	Station 1..	2 32	23. 810	60. 5	23. 746	Station 1..	2 47	23. 806	60. 5	23. 742
2		24. 503	64. 5	24. 452	2..		24. 493	64	24. 443	2..		24. 485	63	24. 437	2..		24. 478	63	24. 430
3		25. 980	69	25. 897	3..		25. 978	68	25. 897	3..		25. 982	67. 5	25. 903	3..		25. 973	69	25. 890
4.		27. 170	77. 5	27. 062	4..		27. 163	77	27. 056	4..		27. 150	76. 5	27. 044	4..		27. 148	76. 5	27. 042
Station 1.	2 3	23. 820	60. 5	23. 756	Station 1..	2 18	23. 818	60. 5	23. 754	Station 1..	2 33	23. 808	60. 5	23. 744	Station 1..	2 48	23. 804	60. 5	23. 740
2.		24. 500	64. 5	24. 449	2..		24. 493	64	24. 443	2..		24. 483	63	24. 435	2..		24. 480	62. 5	24. 433
3.		25. 980	69	25. 897	3..		25. 972	66. 5	25. 895	3..		25. 982	67. 5	25. 903	3..		25. 973	69	25. 890
4		27. 168	77. 5	27. 060	4..		27. 163	77	27. 056	4..		27. 150	76. 5	27. 044	4..		27. 148	76. 5	27. 042
Station 1	2 4	23. 820	60. 5	23. 756	Station 1..	2 19	23. 818	60. 5	23. 754	Station 1..	2 34	23. 808	60. 5	23. 744	Station 1..	2 49	23. 803	60. 5	23. 739
2.		24. 498	64. 5	24. 447	2..		24. 490	64	24. 440	2..		24. 483	63	24. 435	2..		24. 478	62. 5	24. 431
3.		25. 980	69	25. 897	3..		25. 972	66. 5	25. 895	3..		25. 982	68	25. 901	3..		25. 973	69	25. 890
4.		27. 168	77. 5	27. 060	4..		27. 163	77	27. 056	4..		27. 150	76. 5	27. 044	4..		27. 147	76. 5	27. 041
Station 1.	2 5	23. 820	60. 5	23. 756	Station 1..	2 20	23. 818	60. 5	23. 754	Station 1..	2 35	23. 807	60. 5	23. 743	Station 1..	2 50	23. 803	60. 5	23. 730
2.		24. 495	64. 5	24. 443	2..		24. 488	64	24. 438	2..		24. 483	63	24. 435	2..		24. 473	62. 5	24. 426
3.		25. 980	69	25. 897	3..		25. 972	66. 5	25. 895	3..		25. 982	68	25. 901	3..		25. 976	71	25. 888
4.		27. 168	77. 5	27. 060	4..		27. 163	77	27. 056	4..		27. 150	76. 5	27. 044	4..		27. 140	76. 5	27. 040
Station 1.	2 6	23. 820	60. 5	23. 756	Station 1.	2 21	23. 818	60. 5	23. 754	Station 1..	2 36	23. 807	60. 5	23. 743	Station 1..	2 51	23. 803	60. 5	23. 739
2		24. 495	64	24. 445	2..		24. 488	64	24. 438	2..		24. 483	63	24. 435	2..		24. 473	62. 5	24. 426
3.		25. 978	69	25. 895	3		25. 972	66. 5	25. 895	3..		25. 980	69	25. 897	3..		25. 976	71	25. 888
4.		27. 168	77. 5	27. 060	4..		27. 162	77	27. 055	4..		27. 150	76. 5	27. 044	4..		27. 145	77	27. 038
Station 1.	2 7	23. 820	60. 5	23. 756	Station 1..	2 22	23. 818	60. 5	23. 754	Station 1..	2 37	23. 807	60. 5	23. 743	Station 1..	2 52	23. 803	60. 5	23. 739
2.		24. 493	64	24. 443	2..		24. 488	64	24. 438	2..		24. 483	63	24. 435	2..		24. 472	62. 5	24. 425
3.		25. 978	69	25. 895	3..		25. 972	66	25. 896	3..		25. 980	69	25. 897	3..		25. 978	71	25. 890
4		27. 168	77. 5	27. 060	4..		27. 162	77	27. 055	4..		27. 150	76. 5	27. 044	4..		27. 140	77	27. 033
Station 1	2 8	23. 820	60. 5	23. 756	Station 1..	2 23	23. 818	60. 5	23. 754	Station 1..	2 38	23. 807	60. 5	23. 743	Station 1..	2 53	23. 801	60. 5	23. 737
2		24. 493	64	24. 443	2..		24. 488	64	24. 438	2..		24. 483	63	24. 435	2..		24. 477	62. 5	24. 430
3.		25. 978	69	25. 895	3..		25. 972	66	25. 896	3 .		25. 978	60	25. 895	3..		25. 979	71. 5	25. 890
4.		27. 168	77. 5	27. 060	4..		27. 162	77	27. 055	4..		27. 150	76. 5	27. 044	4..		27. 140	77	27. 033

Station 1.	2 9	23.820	60.5	23.756	Station 1..	2 24	23.818	60.5	23.754	Station 1..	2 39	23.807	60.5	23.743	Station 1..	2 54	23.801	60	23.738
2.		24.490	64	24.440	2..		24.490	64	24.440	2..		24.482	63	24.434	2..		24.477	62.5	24.430
3.		25.978	69	25.895	3..		25.972	68	25.896	3..		25.978	70	25.893	3.		25.972	71	25.884
4.		27.168	77.5	27.060	4..		27.162	77	27.055	4..		27.150	76.5	27.014	4..		27.140	76.5	27.034
Station 1.	2 10	23.820	60.5	23.756	Station 1..	2 25	23.816	60.5	23.752	Station 1	2 40	23.867	60.5	23.743	Station 1..	2 55	23.801	60	23.738
2.		24.495	64	24.445	2..		24.490	64	24.440	2..		24.482	63	24.434	2.		24.475	62.5	24.428
3.		25.978	69	25.895	3..		25.975	66.5	25.898	3..		25.975	70	25.890	3..		25.968	71	25.880
4.		27.168	77.5	27.060	4..		27.162	77	27.055	4..		27.150	76.5	27.044	4..		27.140	77	27.033
Station 1.	2 11	23.820	60.5	23.756	Station 1..	2 26	23.816	60.5	23.752	Station 1..	2 41	23.807	60.5	23.743	Station 1..	2 56	23.801	60	23.738
2.		24.495	64	24.445	2..		24.485	64	24.435	2..		24.482	63	24.434	2..		24.477	62.5	24.430
3.		25.978	69	25.895	3..		25.975	66.5	25.898	3..		25.975	70	25.890	3..		25.968	71	25.880
4.		27.168	77.5	27.060	4..		27.162	77	27.055	4		27.150	76.5	27.044	4..		27.140	77	27.033
Station 1.	2 12	23.819	60.5	23.755	Station 1..	2 27	23.815	60.5	23.751	Station 1	2 42	23.807	60.5	23.743	Station 1..	2 57	23.801	60	23.738
2.		24.495	64	24.445	2..		24.485	63.5	24.436	2..		24.482	63	24.434	2..		24.477	62.5	24.420
3.		25,978	69	25.895	3..		25.975	66.5	25.898	3..		25.972	71	25.884	3		25.962	70	25.877
4.		27.165	79.5	27.052	4..		27.160	77	27.053	4..		27.149	76	27.045	4..		27.140	77	27.033
Station 1	2 13	23.819	60.5	23.755	Station 1..	2 28	23.813	60.5	23.749	Station 1..	2 43	23.807	60.5	23.743	Station 1..	2 58	23.800	60	23.737
2.		24.495	64	24.445	2..		24.485	63.5	24.436	2..		24.480	63	24.432	2.		24.477	62.5	24.430
3.		25.978	68	25.897	3..		25.978	67	25.900	3		25.972	71	25.884	3..		25.960	70	25.875
4.		27.165	79	27 053	4..		27.159	76.5	27.053	4..		27.149	76	27.045	4		27.140	77	27.033
Station 1.	2 14	23 819	60.5	23.755	Station 1..	2 29	23.813	60.5	23.749	Station 1..	2 44	23.807	60.5	23.743	Station 1..	2 59	23.800	60	23.737
2.		24.497	64	24.447	2..		24.485	63.5	24.436	2		24.480	63	24.432	2..		24.477	62.5	24.430
3.		25.978	68	25.897	3..		25.978	67	25.900	3..		25.971	70	25.886	3..		25.958	70	25.873
4.		27.166	79	27.054	4..		27.151	76	27.047	4..		27.149	76	27.045	4..		27.140	77	27.033

Station No. 1.—Summit of Mount Washington. Elevation of barometer above sea-level.. 6,285.4 feet.
Station No. 2.—Above Jacob's Ladder. Elevation of barometer above sea-level........... 5,153.3 feet.
Station No. 3.—Waumbeck House. Elevation of barometer above sea-level .... 4,058.7 feet.
Station No. 4.—Base of Mount Washington. Elevation of barometer above sea-level ..... 2,898.3 feet.

NOTE.—Barometer-readings corrected for temperature and instrumental error only.

Meteorological record for June 17, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Station 1	2 0	23.751	74	23.659	Station 1..	2 15	23.748	77.5	23.648	Station 1..	2 30	23.749	80	23.645	Station 1..	2 45	23.751	81.5	23.643
2.		24.433	58	24.396	2..		24.442	60	24.401	2..		24.442	60.5	24.400	2..		24.445	60	24.404
3		25.932	67	25.854	3..		25.939	66	25.863	3..		25.940	65	25.866	3..		25.939	64	25.868
4.		27.178	64	27.102	4..		27.174	64	27.098	4..		27.176	64	27.100	4..		27.173	64	27.097
Station 1	2 1	23.751	74	23.659	Station 1..	2 16	23.748	77.5	23.648	Station 1..	2 31	23.749	80	23.645	Station 1..	2 46	23.751	82	23.642
2.		24.433	58	24.396	2..		24.442	60	21.401	2..		24.445	61	24.402	2..		24.445	60	24.404
3		25.932	67	25.854	3..		25.940	66	25.864	3..		25.940	65	25.866	3..		25.939	64	25.868
4		27.178	64	27.102	4..		27.174	64	27.098	4..		27.176	64	27.100	4..		27.173	64	27.097
Station 1	2 2	23.751	74	23.659	Station 1..	2 17	23.748	78	23.647	Station 1..	2 32	23.748	80	23.644	Station 1..	2 47	23.753	82	23.644
2.		24.435	58.5	24.397	2..		24.440	60	24.399	2..		24.440	61	24.397	2..		24.445	60	24.404
3.		25.931	66.5	25.854	3..		25.940	66	25.864	3..		25.940	65	25.866	3..		25.939	64	25.868
4		27.178	64	27.102	4..		27.174	64	27.098	4..		27.176	64	27.100	4..		27.173	64	27.097
Station 1.	2 3	23.750	74.5	23.656	Station 1..	2 18	23.748	78	23.647	Station 1..	2 33	23.750	80	23.646	Station 1..	2 48	23.754	82.5	23.643
2.		24.435	58.5	24.397	2..		21.438	60	24.397	2..		24.445	60.5	24.403	2..		24.448	60	24.407
3		25.931	66.5	25.854	3..		25.939	66	25.863	3..		25.944	65	25.867	3..		25.935	64	25.864
4		27.177	64	27.101	4..		27.175	64	27.099	4..		27.176	64	27.100	4..		27.173	64	27.007
Station 1	2 4	23.750	74.5	23.656	Station 1..	2 19	23.749	78.5	23.647	Station 1..	2 34	23.750	80	23.646	Station 1..	2 49	23.754	82.5	23.643
2.		24.435	58.5	24.397	2..		24.440	60	24.399	2..		24.440	60.5	24.398	2..		24.448	60	24.407
3		25.931	66.5	25.854	3..		25.938	66	25.862	3..		25.940	65	25.866	3..		25.937	64	25.866
4		27.177	64	27.101	4..		27.176	64	27.100	4..		27.176	64	27.100	4..		27.173	64	27.097
Station 1	2 5	23.751	75	23.656	Station 1..	2 20	23.749	78.5	23.647	Station 1..	2 35	23.750	80	23.646	Station 1..	2 50	23.754	82.5	23.643
2		24.438	58.5	24.400	2..		24.440	60	24.399	2		24.440	60.5	24.398	2..		24.445	60	24.404
3		25.933	66.5	25.856	3..		25.940	65.5	25.865	3..		25.940	65	25.866	3..		25.938	64	25.867
4		27.177	64	27.107	4..		27.177	64	27.101	4..		27.176	64	27.100	4..		27.170	64	27.094
Station 1.	2 6	23.749	73	23.644	Station 1..	2 21	23.749	78.5	23.647	Station 1..	2 36	23.750	80	23.646	Station 1..	2 51.	23.755	82.5	23.644
2		24.438	58.5	24.400	2..		24.438	60	24.397	2..		24.440	59.5	24.400	2..		24.447	60	24.406
3		25.933	66.5	25.856	3..		25.939	65.5	25.864	3..		25.940	64.5	25.868	3..		25.938	64	25.867
4		27.178	64	27.102	4..		27.177	64	27.101	4..		27.177	64	27.101	4..		27.170	64	27.094
Station 2.	2 7	23.749	76	23.652	Station 1..	2 22	23.749	78.5	23.647	Station 1..	2 37	23.749	80.5	23.643	Station 1..	2 52	23.758	82.5	23.647
2.		24.435	58.5	24.397	2..		24.440	60	24.399	2..		24.440	59	24.401	2..		24.448	60	24.407
3.		25.938	66.5	25.861	3..		25.939	65.5	25.864	3..		25.938	64.5	25.866	3..		25.938	64	25.867
4.		27.178	64	27.102	4..		27.177	64	27.101	4..		27.177	64	27.101	4..		27.170	64	27.094
Station 1.	2 8	23.748	76	23.651	Station 1..	2 23	23.749	78.5	23.647	Station 1..	2 38	23.749	80.5	23.643	Station 1..	2 53	23.758	82.5	23.647
2.		24.437	58.5	24.399	2..		24.442	60	24.401	2..		24.440	59	24.401	2..		24.448	60.5	24.406
3.		25.937	66	25.861	3..		25.939	65.5	25.864	3..		25.938	64.5	25.860	3..		25.938	64	25.867
4.		27.177	64	27.101	4..		27.177	64	27.101	4..		27.177	64	27.101	4..		27.171	64	27.005

Station 1	2 9	23.750	76.5	23.652	Station 1	2 24	23.749	78.5	23.647	Station 1	2 39	23.749	80.5	23.643	Station 1	2 54	23.758	83	23.646
2		24.438	58.5	24.400	2		24.440	60	24.399	2		24.440	59	24.401	2		24.448	60.5	24.406
3		25.938	66	25.862	3		25.939	65.5	25.864	3		25.939	64.5	25.867	3		25.936	64	25.865
4		27.177	64	27.101	4		27.177	64	27.101	4		27.178	64	27.102	4		27.171	64	27.095
Station 1	2 10	23.750	76.5	23.652	Station 1	2 25	23.749	78.5	23.647	Station 1	2 40	23.749	81	23.642	Station 1	2 55	23.758	82.5	23.647
2		24.440	59	24.401	2		24.440	60	24.399	2		24.445	59.5	24.405	2		24.448	60.5	24.406
3		25.940	66	25.864	3		25.939	65.5	25.864	3		25.940	64.5	25.868	3		25.936	64	25.865
4		27.177	64	27.101	4		27.177	64	27.101	4		27.178	64	27.102	4		27.171	64	27.095
Station 1	2 11	23.749	77	23.650	Station 1	2 26	23.749	79	23.646	Station 1	2 41	23.749	81	23.642	Station 1	2 56	23.759	82.5	23.648
2		24.438	59	24.439	2		24.440	60	24.399	2		24.443	60	24.402	2		24.448	60.5	24.406
3		25.940	66	25.864	3		25.940	65	25.866	3		25.940	64.5	25.868	3		25.935	64	25.864
4		27.177	64	27.101	4		27.177	64	27.101	4		27.178	64	27.102	4		27.171	64	27.095
Station 1	2 12	23.749	77	23.650	Station 1	2 27	23.749	79	23.646	Station 1	2 42	23.749	81.5	23.641	Station 1	2 57	23.760	82	23.651
2		24.440	59.5	24.400	2		24.440	60	24.399	2		24.440	60	24.399	2		24.448	60	24.407
3		25.938	66	25.862	3		25.939	65	25.865	3		25.940	64.5	25.868	3		25.933	64	25.862
4		27.177	64	27.101	4		27.176	64	27.100	4		27.177	64	27.101	4		27.171	64	27.095
Station 1	2 13	23,749	77	23.650	Station 1	2 28	23.749	79	23.646	Station 1	2 43	23.751	81.5	23.643	Station 1	2 58	23.761	82	23.652
2		24.440	59.5	24.400	2		24.440	60	24.399	2		24.442	60	24.401	2		24.448	60	24.407
3		25.934	66	25.858	3		25.939	65	25.865	3		25.940	64	25.869	3		25.933	63.5	25.863
4		27.176	64	27.100	4		27.176	64	27.100	4		27.175	64	27.099	4		27.171	64	27.095
Station 1	2 14	23.748	77.5	23.648	Station 1	2 29	23.749	79	23.646	Station 1	2 44	23.751	81.5	23.643	Station 1	2 59	23.761	81.5	23.653
2		24.440	59.5	24.400	2		24.442	60.5	24.400	2		24.445	60	24.401	2		24.445	60	24.404
3		25.935	66	25.859	3		25.940	65	25.866	3		25.939	64	25.868	3		25.932	63.5	25.862
4		27.175	64	27.099	4		27.176	64	27.100	4		27.175	64	27.099	4		27.171	64	27.095

Station No. 1.—Summit of Mount Washington. Elevation of barometer above sea-level... 6,285.4 feet.
Station No. 2.—Above Jacob's Ladder. Elevation of barometer above sea-level............ 5,553.3 feet.
Station No. 3.—Waumbeck House. Elevation of barometer above sea-level.................. 4,058.7 feet.
Station No. 4.—Base of Mount Washington. Elevation of barometer above sea-level...... 2,898.3 feet.

NOTE.—Barometer-readings corrected for temperature and instrumental error only.

Meteorological record for June 18, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Station 1	2 0	23.800	68	23.720	Station 1..	2 15	23.789	67	23.711	Station 1..	2 30	23.782	67	23.707	Station 1..	2 45	23.776	67	23.701
2		24.458	63.5	24.409	2..		24.460	62.5	24.413	2..		24.460	63.5	24.411	2..		24.458	63	24.410
3		25.940	66	25.864	3..		25.937	65	25.863	3..		25.930	64.5	25.858	3..		25.930	63	25.861
4		27.165	64	27.089	4..		27.163	65	27.085	4..		27.160	65	27.082	4..		27.161	65	27.083
Station 1	2 1	23.800	68	23.720	Station 1..	2 16	23.789	67	23.711	Station 1..	2 31	23.780	67	23.705	Station 1..	2 46	23.776	67	23.701
2		24.458	63.5	24.409	2..		24.460	62.5	24.413	2..		24.460	63.5	24.411	2..		24.458	63	24.410
3		25.940	66	25.864	3..		25.937	65	25.863	3..		25.930	64	25.859	3..		25.930	63	25.861
4		27.165	64	27.089	4..		27.163	65	27.085	4..		27.160	65	27.082	4..		27.162	64.5	27.085
Station 1	2 2	23.800	68	23.720	Station 1..	2 17	23.789	67	23.711	Station 1..	2 32	23.780	67	23.705	Station 1..	2 47	23.776	67	23.701
2		24.458	63	24.410	2..		24.463	62.5	24.413	2..		24.460	63.5	24.411	2..		24.460	63	24.412
3		25.940	66.5	25.863	3..		25.937	65	25.863	3..		25.930	64	25.859	3..		25.930	63	25.861
4		27.165	64	27.089	4..		27.163	65	27.085	4..		27.159	65	27.081	4..		27.162	64.5	27.085
Station 1	2 3	23.800	68	23.720	Station 1..	2 18	23.789	67	23.711	Station 1..	2 33	23.780	67	23.705	Station 1..	2 48	23.778	67	23.703
2		24.460	63	24.412	2..		24.463	63	24.415	2..		24.460	63.5	24.411	2..		24.458	63	24.410
3		25.940	66	25.864	3..		25.937	65	25.863	3..		25.930	64	25.859	3..		25.930	65	25.861
4		27.165	64	27.089	4..		27.162	65	27.084	4..		27.159	65	27.081	4..		27.162	64.5	27.085
Station 1	2 4	23.798	68	23.718	Station 1..	2 19	23.788	67	23.710	Station 1..	2 34	23.780	67	23.705	Station 1..	2 49	23.778	67	23.703
2		24.463	63	24.415	2..		24.463	63.5	24.414	2..		24.460	63.5	24.411	2..		24.462	63.5	24.413
3		25.945	65.5	25.838	3..		25.937	64.5	25.865	3.		25.930	64	25.859	3..		25.930	65	25.861
4		27.164	64	27.088	4..		27.162	65	27.084	4..		27.159	65	27.081	4..		27.162	64.5	27.085
Station 1	2 5	23.797	67.5	23.718	Station 1..	2 20	23.788	67	23.710	Station 1..	2 35	23.780	67	23.705	Station 1..	2 50	23.780	67	23.705
2		24.463	63	24.415	2..		24.463	63.5	24.414	2..		24.458	64	24.408	2..		24.462	63.5	24.413
3		25.943	65.5	25.836	3..		25.937	64.5	25.865	3..		25.930	63.5	25.860	3..		25.930	65	25.861
4		27.164	64	27.088	4..		27.162	65	27.084	4..		27.159	64.5	27.082	4..		27.160	65	27.083
Station 1	2 6	23.797	67.5	23.718	Station 1..	2 21	23.788	67	23.710	Station 1..	2 36	23.779	67	23.704	Station 1..	2 51	23.781	67	23.706
2		24.463	63	24.415	2..		24.460	63.5	24.411	2..		24.458	64	24.408	2..		24.462	63.5	24.413
3		25.940	65	25.866	3..		25.937	64.5	25.865	3..		25.930	63	25.861	3..		25.930	65	25.861
4		27.164	64.5	27.087	4..		27.162	65	27.084	4..		27.159	64.5	27.082	4..		27.160	65	27.083
Station 1	2 7	23.795	67.5	23.716	Station 1..	2 22	23.786	67	23.708	Station 1..	2 37	23.779	67	23.704	Station 1..	2 52	23.780	67	23.705
2		24.463	63	24.415	2..		24.460	63.5	24.411	2..		24.458	64.5	24.407	2..		24.462	63.5	24.413
3		25.938	65	25.864	3..		25.937	64.5	25.865	3..		25.930	62.5	25.862	3..		25.930	65	25.861
4		27.164	64.5	27.087	4..		27.162	65	27.084	4..		27.159	64.5	27.082	4..		27.160	65	27.083
Station 1	2 8	23.795	67	23.717	Station 1..	2 23	23.786	67	23.708	Station 1..	2 38	23.778	67	23.703	Station 1..	2 53	23.780	67	23.705
2		24.460	63	24.412	2.		24.460	63.5	24.411	2..		24.458	64.5	24.407	2..		24.462	63.5	24.413
3		25.938	65	25.864	3..		25.937	64.5	25.865	3..		25.930	62.5	25.862	3..		25.928	62.5	25.860
4		27.160	64.5	27.083	4..		27.162	65	27.084	4..		27.159	64	27.083	4..		27.160	65	27.083

Station 1	2 9	23.795	67	23.717	Station 1..	2 24	23.786	67	23.708	Station 1 .	2 39	23.778	67	23.703	Station 1..	2 54	23.780	67	23.705
2.		24.463	63.5	24.414	2..		24.460	64	24.410	2..		24.455	65	24.403	2..		24.460	64	24.410
3.		25.935	63	25.861	3 .		25.935	64.5	25.863	3 .		25.928	62.5	25.860	3 .		25.928	62.5	25.860
4.		27.160	64.5	27.083	4..		27.160	65	27.082	4..		27.159	64	27.083	4 .		27.160	65	27.083
Station 1	2 10	23.792	66.5	23.715	Station 1.	2 25	23.783	67	23.708	Station 1..	2 40	23.779	67	23.703	Station 1..	2 55	23.780	67	23.705
2		24.462	63.5	24.413	2..		24.460	64	24.410	2..		24.455	64.5	24.404	2..		24.460	64	24.410
3		25.935	65	25.861	3..		25.935	64.5	25.863	3..		25.928	62.5	25.860	3..		25.928	62.5	25.860
4		27.161	65	27.083	4..		27.160	65	27.082	4..		27.160	64.5	27.084	4..		27.159	65	27.082
Station 1	2 11	23.790	66.5	23.713	Station 1..	2 26	23.783	67	23.708	Station 1..	2 41	23.778	67	23.703	Station 1..	2 56	23.780	27	23.705
2.		24.463	63.5	24.414	2..		24.460	64	24.410	2..		24.455	64	24.405	2..		24.462	63.5	24.413
3.		25.937	65	25.863	3..		25.935	64.5	25.863	3..		25.928	62.5	25.860	3..		25.928	62.5	25.860
4.		27.161	65	27.083	4..		27.160	65	27.082	4..		27.160	64.5	27.084	4..		27.159	65	27.082
Station 1	2 12	23.790	66.5	23.713	Station 1..	2 27	23.783	67	23.708	Station 1..	2 42	23.778	67	23 703	Station 1..	2 57	23.780	67	23.705
2		24.463	63.5	24.414	2..		24.460	63.5	21.411	2..		24.455	63	24.407	2..		24.460	63	24.412
3.		25.937	65	25.863	3..		25.932	64	25.861	3..		25.923	62.5	25.860	3..		25.928	62.5	25.860
4.		27.163	65	27.085	4..		27.169	65	27.082	4..		27.160	64.5	27.084	4..		27.159	65	27.082
Station 1	2 13	23.789	66.5	23.714	Station 1..	2 28	23.782	67	23.707	Station 1..	2 43	23.776	67	23.701	Station 1..	2 58	23.779	67	23.704
2		24.463	63	24.415	2..		24.460	63.5	24.411	2..		24.455	63	21.407	2..		24.460	63	24.412
3		25.937	65	25.863	3..		25.930	64	25.859	3..		25.928	62.5	25.860	3..		25.928	62	25.861
4.		27.163	65	27.085	4..		27.160	65	27.082	4..		27.160	64.5	27.084	4..		27.581	65	27.081
Station 1.	2 14	23.789	67	23.711	Station 1..	2 29	23.782	67	23.707	Station 1..	2 44	23.776	67	23.701	Station 1..	2 59	23.779	67	23.704
2		24.460	63	24.415	2..		24.460	63.5	24.411	2..		24.458	63	24.410	2..		24.460	62.5	24.413
3.		25.937	65	25.863	3..		25.930	64	25.859	3..		25.930	62.5	25.862	3..		25.928	62	25.861
4.		27.163	65	27.085	4..		27.160	65	27.082	4..		27.161	65	27.083	4..		27.158	65	27.081

Station No. 1.—Summit of Mount Washington. Elevation of barometer above sea-level.. 6,285.4 feet.
Station No. 2.—Above Jacob's Ladder. Elevation of barometer above sea-level .... 5,553.3 feet.
Station No. 3.—Waumbeck House. Elevation of barometer above sea-level .... 4,058.7 feet.
Station No. 4.—Base of Mount Washington. Elevation of barometer above sea-level ..... 2,898.3 feet.

Note.—Barometer-readings corrected for temperature and instrumental error only.

Meteorological record for June 19, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Station 1	2 0	23. 800	70	23. 716	Station 1	2 15	23. 803	71	23. 717	Station 1	2 30	23. 810	71	23. 724	Station 1	2 45	23. 800	72	23. 712
2		24. 448	65	24. 396	2		24. 452	65	24. 400	2		24. 455	65. 5	24. 402	2		24. 455	65	24. 403
3		25. 900	73. 5	25. 808	3		25. 905	71	25. 819	3		25. 912	70	25. 827	3		25. 920	66. 5	25. 843
4		27. 088	71. 5	26. 994	4		27. 098	71. 5	27. 004	4		27. 112	72. 5	27. 006	4		27. 120	72	27. 014
Station 1	2 1	23. 800	70	23. 716	Station 1	2 16	23. 803	71	23. 717	Station 1	2 31	23. 810	71. 5	23. 723	Station 1	2 46	23. 800	72	23. 712
2		24. 450	65. 5	24. 397	2		24. 452	65	24. 400	2		24. 455	65. 5	24. 402	2		24. 455	65. 5	24. 402
3		25. 900	73. 5	25. 808	3		25. 905	71	25. 819	3		25. 912	70	25. 827	3		25. 920	68. 5	25. 843
4		27. 088	71. 5	26. 994	4		27. 098	71. 5	27. 004	4		27. 112	72. 5	27. 006	4		27. 120	72	27. 014
Station 1	2 2	23. 800	70	23. 716	Station 1	2 17	23. 803	71	23. 717	Station 1	2 32	23. 810	71. 5	23. 723	Station 1	2 47	23. 800	72	23. 712
2		24. 450	66	24. 396	2		24. 452	64. 5	24. 401	2		24. 455	65. 5	24. 402	2		24. 453	65. 5	24. 400
3		25. 900	73. 5	25. 808	3		25. 905	71	25. 819	3		25. 912	69	25. 829	3		25. 920	68. 5	25. 843
4		27. 088	71. 5	26. 994	4		27. 098	71. 5	27. 004	4		27. 112	72. 5	27. 006	4		27. 120	72	27. 014
Station 1	2 3	23. 800	70. 5	23. 715	Station 1	2 18	23. 803	71	23. 717	Station 1	2 33	23. 810	71. 5	23. 723	Station 1	2 48	23. 800	72	23. 712
2		24. 450	66	24. 396	2		24. 452	65	24. 400	2		24. 455	65. 5	24. 402	2		24. 455	66	24. 401
3		25. 900	73. 5	25. 808	3		25. 905	71	25. 819	3		25. 912	69	25. 829	3		25. 915	66	25. 839
4		27. 085	71. 5	26. 994	4		27. 100	71. 5	27. 006	4		27. 112	72. 5	27. 006	4		27. 120	72	27. 014
Station 1	2 4	23. 800	70. 5	23. 715	Station 1	2 19	23. 803	71	23. 717	Station 1	2 34	23. 810	71. 5	23. 723	Station 1	2 49	23. 800	72	23. 712
2		24. 450	66	24. 396	2		24. 452	65	24. 400	2		24. 455	65. 5	24. 402	2		24. 456	66	24. 402
3		25. 900	73. 5	25. 808	3		25. 905	71	25. 819	3		25. 918	68	25. 837	3		25. 915	66	25. 839
4		27. 089	71. 5	26. 995	4		27. 100	71. 5	27. 006	4		27. 112	72. 5	27. 006	4		27. 120	72	27. 014
Station 1	2 5	23. 800	70. 5	23. 715	Station 1	2 20	23. 803	71	23. 717	Station 1	2 35	23. 810	71. 5	23. 723	Station 1	2 50	23. 800	72	23. 712
2		24. 450	66	24. 396	2		24. 452	65	24. 400	2		24. 455	65	24. 403	2		24. 457	65. 5	24. 404
3		25. 900	73. 5	25. 808	3		25. 905	71	25. 819	3		25. 918	68	25. 837	3		25. 915	66	25. 839
4		27. 089	71. 5	26. 995	4		27. 100	71. 5	27. 006	4		27. 112	72. 5	27. 006	4		27. 120	72	27. 014
Station 1	2 6	23. 800	70. 5	23. 715	Station 1	2 21	23. 803	71	23. 717	Station 1	2 36	23. 805	71. 5	23. 718	Station 1	2 51	23. 800	72	23. 712
2		24. 450	66	24. 396	2		24. 452	65	24. 400	2		24. 455	64. 5	24. 404	2		24. 455	65	24. 400
3		25. 900	73	25. 810	3		25. 905	70. 5	25. 818	3		25. 918	68	25. 837	3		25. 910	65. 5	25. 835
4		27. 090	71. 5	26. 996	4		27. 100	71. 5	27. 006	4		27. 115	72. 5	27. 009	4		27. 120	72	27. 014
Station 1	2 7	23. 800	71	23. 714	Station 1	2 22	23. 805	71	23. 719	Station 1	2 37	23. 805	71. 5	23. 718	Station 1	2 52	23. 800	72	23. 712
2		24. 450	66	24. 396	2		24. 452	65	24. 400	2		24. 455	64. 5	24. 404	2		24. 455	65	24. 403
3		25. 900	73	25. 810	3		25. 905	70. 5	25. 818	3		25. 918	68	25. 837	3		25. 910	65. 5	25. 835
4		27. 090	71. 5	26. 996	4		27. 100	71. 5	27. 006	4		27. 115	72. 5	27. 009	4		27. 120	72	27. 014
Station 1	2 8	23. 800	71	23. 714	Station 1	2 23	23. 810	71	23. 724	Station 1	2 38	23. 800	71. 5	23. 713	Station 1	2 53	23. 800	72	23. 712
2		24. 450	66	24. 396	2		24. 452	65	24. 400	2		24. 455	65	24. 403	2		24. 455	64. 5	24. 404
3		25 900	73	25. 810	3		25. 905	70. 5	25. 818	3		25. 918	68	25. 837	3		25. 910	65. 5	25. 835
4		27. 090	71. 5	26. 996	4		27. 100	71. 5	27. 006	4		27. 115	72. 5	27. 009	4		27. 120	72	27. 014

Station 1	2 9	23.803	71	23.717	Station 1..	2 24	23.810	71	23.724	Station 1..	2 39	23.800	71.5	23.713	Station 1..	2 54	23.800	72	23.719
2		24.452	66	24.398	2..		24.452	65	24.400	2..		24.455	65.5	24.402	2..		24.452	64	24.402
3.		25.900	73	25.810	3..		25.908	70.5	25.821	3..		25.920	67	25.842	3..		25.905	65	25.831
4.		27.092	71.5	26.998	4..		27.105	71.5	27.001	4..		27.115	72.5	27.009	4..		27.118	72	27.012
Station 1.	2 10	23.803	71	23.714	Station 1..	2 25	23.810	71	23.724	Station 1..	2 40	23 800	71.5	23.713	Station 1..	2 55	23.790	72	23.702
2.		24.451	65.5	24.398	2..		24.452	65	24.400	2..		24.455	65.5	24.402	2..		24.452	63.5	24.403
3		25.900	73	25.810	3..		25.908	70.5	25.821	3..		25.920	67	25.842	3..		25.905	63	25.831
4		27.095	71.5	27.001	4..		27.105	71.5	27.001	4..		27.115	72.5	27.009	4..		27.118	72	27.012
Station 1	2 11	23.803	71	23.717	Station 1..	2 26	23.810	71	23.724	Station 1..	2 41	23.800	71.5	23.713	Station 1..	2 56	23.785	72	23.697
2		24.451	65.5	24.398	2..		24.452	65	24.400	2..		24.455	66	24.401	2..		24.452	63.5	24.403
3		25.900	73	25.810	3..		25.908	70.5	25.821	3..		25.920	67	25.842	3..		25.895	65.5	25.820
4.		27.096	71.5	27.001	4..		27.108	72	27.003	4..		27.115	72.5	27.009	4..		27.115	72	27.009
Station 1.	2 12	23.803	71	23.717	Station 1..	2 27	23.810	71	23.724	Station 1..	2 42	23.800	72	23.712	Station 1..	2 57	23.785	72	23.697
2.		24.450	65.5	24.397	2..		24.455	65.5	24.402	2..		24.455	65.5	24.402	2..		24.450	63	24.402
3		25.905	71	25.819	3..		25.908	70	25.823	3..		25.920	67	25.842	3..		25.895	65 5	25.820
4.		27.095	71.5	27.001	4..		27.110	72	27.005	4..		27.118	72	27.012	4..		27.115	72	27.009
Station 1.	2 13	23.803	71	23.717	Station 1..	2 28	23.810	71	23.724	Station 1..	2 43	23.800	72	23.712	Station 1..	2 58	23.785	72	23.697
2		24.451	65	24.399	2..		24.455	65.5	24.402	2..		24.455	65	24.403	2..		24.450	63	24.402
3.		25.905	71	25.819	3..		25.908	70	25.823	3..		25.920	67	25.842	3..		25.800	65	25.816
4.		27.098	71.5	27.004	4..		27.110	72	27.005	4..		27.118	72	27.012	4..		27.112	72	27.006
Station 1.	2 14	23.803	71	23.717	Station 1..	2 29	23.810	71	23.724	Station 1..	2 44	23.800	72	23.712	Station 1..	2 59	23.785	72	23.697
2.		24.452	65	24.400	2..		24.455	65.5	24.402	2..		24.455	65	24.403	2..		24.447	63	24.399
3.		25.905	71	25.819	3..		25.908	70	25.823	3..		25.920	67	25.842	3..		25.888	65	25.814
4.		27.098	71.5	27.004	4..		97.112	72	27.007	4..		27.118	72	27.012	4..		27.112	72	27.006

Station No. 1.—Summit of Mount Washington. Elevation of barometer above sea-level.. 6,285.4 feet.
Station No. 1.—Above Jacob's Ladder. Elevation of barometer above sea-level............ 5,553.3 feet.
Station No. 3.—Waumbeck House. Elevation of barometer above sea-level................ 4,058.7 feet
Station No. 4.—Base of Mount Washington. Elevation of barometer above sea-level...... 2,898.3 feet

NOTE.—Barometer-readings corrected for temperature and instrumental error only.

Meteorological record for June 20, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					p. m.					p. m.					p. m.			
Station 1.	2 0	23.578	63	23.509	Station 1..	2 15	23.580	62	23.513	Station 1..	2 30	23.575	62	23.508	Station 1..	2 45	23.555	62	23.488
2.		24.240	60	24.200	2..		24.235	59	24.198	2..		24.225	58.5	24.191	2..		24.238	57.5	24.204
3		25.730	67	25.653	3..		25.727	65	25.655	3..		25.728	67	25.651	3..		25.725	64	25.655
4		26.938	71	26.846	4..		26.938	71.5	26.842	4		26.938	72	26.843	4..		26.939	72	26.844
Station 1.	2 1	23.578	63	23.509	Station 1..	2 16	23.575	62	23.508	Station 1..	2 31	23.575	62	23.508	Station 1..	2 46	23.540	62	23.473
2		24.240	60	24.200	2..		24.238	59	24.201	2..		24.270	58.5	24.196	2..		24.235	57.5	24.201
3		25.730	66.5	25.655	3..		25.727	65	25.655	3..		25.728	67	23.651	3..		25.725	64	25.655
4.		26.938	71	26.846	4..		26.938	71.5	26.842	4..		26.934	72	26.839	4..		26.939	72	26.844
Station 1.	2 2	23.578	63	23.509	Station 1..	2 17	23.575	62	23.508	Station 1..	2 32	23.575	62	23.508	Station 1..	2 47	23.585	62	23.518
2		24.245	60.5	24.204	2..		24.240	59	24.203	2..		24.225	58.5	24.191	2..		24.230	57.5	24.196
3		25.730	66.5	25.655	3..		25.728	65	25.656	3..		25.725	66.5	25.650	3..		25.725	64	25.655
4.		26.938	71	26.846	4..		26.937	72	26.842	4..		26.934	72	26.839	4..		26.940	72	26.845
Station 1.	2 3	23.585	62.5	23.517	Station 1..	2 18	23.575	62	23.508	Station 1..	2 33	23.575	62	23.508	Station 1..	2 48	23.580	62	23.513
2		24.240	60.5	24.199	2..		24.233	59	24.196	2..		24.223	58.5	24.189	2..		24.235	57.5	24.201
3.		25.703	66	25.656	3..		25.725	65	25.653	3..		25.728	66	25.654	3..		25.730	64.5	25.659
4.		26.937	71	26.845	4..		26.934	72	26.839	4..		26.938	72	26.843	4..		26.940	72	26.845
Station 1.	2 4	23.585	62.5	23.517	Station 1..	2 19	23.575	62	23.508	Station 1..	2 34	23.575	62	23.508	Station 1..	2 49	23.580	62	23.513
2.		24.240	60.5	24.199	2..		24.233	50	24.196	2..		24.220	58.5	24.186	2..		24.230	57.5	24.196
3.		25.703	66	25.656	3..		25.725	65.5	25.650	3..		25.728	65.5	25.655	3..		25.730	65	25.658
4.		26.937	71	26.845	4..		26.933	72	26.838	4..		26.939	72	26.844	4..		26.940	72	26.845
Station 1.	2 5	23.590	62.5	23.522	Station 1..	2 20	23.575	62	23.508	Station 1..	2 35	23.575	62	23.508	Station 1..	2 50	23.580	62	23.513
2.		24.240	60.5	24.199	2..		24.230	59	24.193	2..		24.225	58.5	24.191	2..		24.230	57.5	24.196
3		25.728	65.5	25.653	3..		25.725	66	25.651	3..		25.728	65	25.656	3..		25.729	65	25.657
4		26.938	71	26.846	4..		26.933	72	26.838	4..		26.939	72	26.843	4..		26.941	71.5	26.847
Station 1	2 6	23.590	62.5	23.522	Station 1..	2 21	23.575	62	23.508	Station 1..	2 36	23.570	62.5	23.502	Station 1..	2 51	23.580	62	23.513
2		24.240	60	24.200	2..		24.235	58.5	24.199	2..		24.230	58.5	24.196	2..		24.235	57.5	24.201
3.		25.728	65	25.656	3..		25.725	66	25.651	3..		25.728	65	25.656	3..		25.729	65	25.657
4.		26.938	71	26.846	4..		26.935	72	26.840	4..		26.939	72	26.844	4..		26.941	71.5	26.847
Station 1.	2 7	23.580	62.5	23.512	Station 1..	2 22	23.575	62	23.508	Station 1..	2 37	23.570	62.5	23.502	Station 1..	2 52	23.580	62	23.513
2.		24.238	60	24.198	2..		24.233	58.5	24.199	2..		24.230	58.5	24.196	2..		24.255	57.5	24.201
3.		25.730	65	25.658	3..		25.725	66	25.651	3..		25.728	65	25.656	3..		25.729	65	25.657
4.		26.940	71	26.848	4..		26.937	72	26.842	4..		26.940	72	26.845	4..		26.942	71.5	26.848
Station 1.	2 8	23.580	62.5	23.512	Station 1..	2 23	23.575	62	23.508	Station 1..	2 38	23.570	62.5	23.502	Station 1..	2 53	23.580	62	23.513
2.		24.240	60	24.200	2..		24.230	58.5	24.196	2..		24.233	58.5	24.199	2..		24.233	57.5	24.199
3.		25.729	65	25.657	3..		25.725	66	25.651	3..		25.728	65	25.656	3..		25.729	65	25.657
4.		26.940	71	26.848	4..		26.938	72	26.843	4..		26.940	72	26.845	4..		26.942	71.5	26.848

Station 1.	2 9	23.580	62.5	23.512	Station 1..	2 24	23.575	62	23.508	Station 1..	2 39	23.570	62.5	23.502	Station 1..	2 54	23.570	62	23.503
2		24.245	59.5	24.206	2..		24.235	58.5	24.201	2..		24.233	58.5	24.199	2..		24.230	57.5	24.196
3		25.730	65	25.658	3..		25.728	66.5	25.653	3..		25.728	65	25.656	3..		25.729	65	25.657
4		26.940	71	26.848	4..		26.937	72	26.842	4..		26.940	72	26.845	4..		26.942	71	26.850
Station 1.	2 10	23.580	62.5	23.512	Station 1..	2 25	23.575	62	23.508	Station 1..	2 40	23.570	62.5	23.502	Station 1..	2 55	23.570	62	23.503
2		24.245	59.5	24.206	2..		24.230	58.5	24.196	2..		24.225	58	24.190	2..		24.235	57.5	24.201
3		25.728	65	25.656	3..		25.728	66.5	25.650	3..		25.728	64.5	25.657	3..		25.729	65	25.657
4		26.940	71	26.848	4..		26.937	72	26.842	4..		26.941	71.5	26.847	4..		26.943	71	26.851
Station 1.	2 11	23.580	62.5	23.512	Station 1..	2 26	23.575	62	23.508	Station 1..	2 41	23.570	62.5	23.502	Station 1..	2 56	23.570	62	23.503
2		24.240	59.5	24.201	2..		24.225	58.5	24.191	2..		24.230	58	24.195	2..		24.235	57.5	24.201
3		25.731	65	25.659	3..		25.725	67	25.648	3..		25.728	64.5	25.657	3..		25.730	65	25.658
4		26.939	71	26.847	4..		26.937	72	26.842	4..		26.941	71.5	26.847	4..		26.942	71	26.850
Station 1	2 12	23.580	62	23.513	Station 1..	2 27	23.575	62	23.508	Station 1..	2 42	23.560	62	23.493	Station 1..	2 57	23.570	62	23.503
2		24.238	59.5	24.199	2..		24.230	58.5	24.196	2..		24.235	58	24.200	2..		24.235	57.5	24.201
3		25.731	65	25.659	3..		25.725	67	25.684	3..		25.730	64	25.660	3..		25.728	65	25.656
4		26.935	71	26.843	4..		26.938	72	26.843	4..		26.940	71.5	26.846	4..		26.946	71	26.854
Station 1.	2 13	23.580	62	23.513	Station 1..	2 28	23.575	62	23.508	Station 1..	2 43	23.560	62	23.493	Station 1..	2 58	23.570	62	23.503
2.		24.235	59.5	24.196	2..		24.230	58.5	24.196	2..		24.235	58	24.200	2..		24.238	57.5	24.204
3.		25.730	65	25.658	3		25.727	67	25.650	3..		25.730	64	25.660	3..		25.729	65	25.657
4.		26.937	71	26.843	4..		26.938	72	26.843	4..		26.940	71.5	26.846	4..		26.946	71	26.854
Station 1	2 14	23.580	62	23.513	Station 1	2 2[illegible]	23.575	62	23.508	Station 1..	2 44	23.560	62	23.493	Station 1..	2 59	23.570	62	23.503
2		[illegible]	[illegible]	[illegible]	2		24.230	58.5	24.196	2..		24.235	58	24.200	2..		24.240	57.5	24.206
3		25.729	[illegible]	[illegible]	[illegible]		[illegible]	67	25.651	3..		25.730	64.5	25.659	3..		25.731	64.5	25.659
4.		26.937	71	[illegible]	4..		26.938	72	26.843	4..		26.940	72	26.845	4..		26.947	71	26.855

Station No. 1.—Summit of Mount Washington. Elevation of barometer above sea-level.. 6,285.4 feet.
Station No. 2.—Above Jacob's Ladder. Elevation of barometer above sea-level.......... 5,553.3 feet.
Station No. 3.—Waumbeck House. Elevation of barometer above sea-level.............. 4,058.7 feet.
Station No. 4.—Base of Mount Washington. Elevation of barometer above sea-level..... 2,896.3 feet.

NOTE.—Barometer-readings corrected for temperature and instrumental error only.

Meteorological record for June 21, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation. p. m.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation. p. m.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation. p. m.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation. p. m.	Barometer.	Attached thermometer.	Corrected barometer.
Station 1.	9 0	23.725	67	23.647	Station 1..	9 15	23.736	67.5	23.657	Station 1..	9 30	23.736	67	23.658	Station 1..	9 45	23.728	65.5	23.654
2.		24.450	67	24.394	2..		24.455	65.5	24.402	2..		24.455	68	24.396	2..		24.459	68	24.401
3.		25.938	60	25.876	3..		25.937	57.5	25.881	3..		25.935	56.5	25.881	3..		25.930	55	25.879
4		27.185	60	27.119	4..		27.190	60.5	27.123	4..		27.191	60.5	27.124	4..		27.191	60.5	27.124
Station 1.	9 1	23.725	67	23.647	Station 1..	9 16	23.736	67.5	23.657	Station 1..	9 31	23.738	67	23.660	Station 1..	9 46	23.730	66	23.655
2.		24.450	67	24.394	2..		24.455	65.5	24.402	2..		24.455	68	24.396	2..		24.459	68	24.401
3.		25.938	60	25.876	3..		25.936	57.5	25.880	3..		25.935	56	25.882	3..		25.930	54.5	25.881
4.		27.185	60	27.119	4..		27.190	61	27.122	4..		27.191	60.5	27.124	4..		27.190	60	27.124
Station 1	9 2	23.725	67	23.647	Station 1..	9 17	23.734	67.5	23.655	Station 1..	9 32	23.738	67	23.660	Station 1..	9 47	23.730	66	23.655
2.		24.450	67.5	24.393	2..		24.455	65.5	24.402	2..		24.455	68	24.396	2..		24.458	68	24.400
3.		25.938	59.5	25.877	3..		25.936	57.5	25.880	3..		25.934	56	25.881	3..		25.930	54.5	25.881
4		27.185	60	27.119	4..		27.190	61	27.122	4..		27.191	60.5	27.124	4..		27.190	60	27.124
Station 1.	9 3	23.734	67.5	23.655	Station 1..	9 18	23.734	67.5	23.655	Station 1..	9 33	23.738	67	23.660	Station 1..	9 48	23.728	66	23.653
2.		24.452	67.5	24.305	2..		24.455	65.5	24.402	2..		24.455	68	24.396	2..		24.459	68	24.401
3.		25.937	59	25.677	3..		25.936	57.5	25.880	3..		25.934	56	25.881	3..		25.930	54.5	25.881
4.		27.188	60	27.122	4..		27.190	61	27.122	4..		27.191	60.5	27.124	4..		27.190	60	27.124
Station 1.	9 4	23.734	67.5	23.655	Station 1..	9 19	23.734	67.5	23.655	Station 1..	9 34	23.738	67	23.660	Station 1..	9 49	23.728	66	23.653
2.		24.455	67.5	24.308	2..		24.455	66	24.401	2..		24.457	68	24.399	2..		24.459	68	24.401
3		25.936	59	25.876	3..		25.936	57.5	25.880	3..		25.934	56	25.881	3..		25.930	54.5	25.881
4.		27.188	60	27.122	4..		27.190	61	27.122	4..		27.191	60.5	27.124	4..		27.190	60	27.124
Station 1	9 5	23.734	67.5	23.655	Station 1..	9 20	23.734	67.5	23.655	Station 1..	9 35	23.735	67	23.657	Station 1..	9 50	23.728	66	23.653
2		24.455	66.5	24.400	2..		24.455	66.5	24.400	2..		24.457	68	24.399	2..		24.459	67.5	24.402
3		25.937	58.5	25.878	3..		25.934	57	25.879	3..		25.934	55.5	25.882	3..		25.930	54.5	25.881
4		27.188	60	27.122	4..		27.190	61	27.122	4..		27.101	60.5	27.124	4..		27.190	60	27.124
Station 1.	9 6	23.734	67.5	23.655	Station 1..	9 21	23.738	68	23.658	Station 1..	9 36	23.735	67	23.657	Station 1..	9 51	23.729	66	23.654
2		24.455	66	24.401	2..		24.455	67	24.399	2..		24.457	68	24.399	2..		24.457	67	24.401
3		25.937	58.5	25.878	3..		25.934	57	25.879	3..		25.934	55.5	25.882	3..		25.931	54.5	25.882
4.		27.188	60	27.122	4..		27.190	61	27.122	4..		27.192	60.5	27.125	4..		27.191	59.5	27.126
Station 1	9 7	23.734	67.5	23.655	Station 1..	9 22	23.738	68	23.658	Station 1..	9 37	23.735	67	23.657	Station 1..	9 52	23.727	66	23.652
2		24.455	65	24.403	2..		24.455	66.5	24.400	2..		24.457	68	24.399	2..		24.457	67	24.401
3		25.938	58.7	25.879	3..		25.934	57	25.879	3..		25.933	55	25.882	3..		25.931	54.5	25.882
4.		27.188	60.5	27.121	4..		27.190	61	27.122	4..		27.192	60.5	27.125	4..		27.191	59.5	27.126
Station 1.	9 8	23.732	67.5	23.653	Station 1..	9 23	23.737	68	23.658	Station 1..	9 38	23.735	67	23.657	Station 1..	9 53	23.725	65.5	23.650
2.		24.455	64.5	24.404	2..		24.455	66	24.401	2..		24.458	68	24.400	2..		24.458	67	24.402
3.		25.938	58	25.860	3..		25.935	57	25.880	3..		25.933	55	25.882	3..		25.931	54.5	25.882
4.		27.188	60.5	27.121	4..		27.190	61	27.122	4..		27.192	60.5	27.123	4..		27.191	59.5	27.126

Station 1.	9 9	23. 732	67. 5	23. 653	Station 1..	9 24	23. 734	67. 5	23. 655		9 39	23. 735	67	23. 657	Station 1..	9 54	23. 728	65. 5	23. 653
2		24. 455	64. 5	24. 404	2..		24. 455	66. 5	24. 400	2..		24. 458	68	24. 400	2..		24. 458	67	24. 402
3		25. 938	58	25. 880	3..		25. 935	57	25. 880	3..		25. 933	55	25. 882	3..		25. 931	54. 5	25. 882
4.		27. 188	60. 5	27. 121	4..		27. 190	61	27. 122	4..		27. 192	60. 5	27. 125	4..		27. 190	59. 5	27. 125
Station 1	9 10	23. 735	67. 5	23. 656	Station 1..	9 25	23. 734	67. 5	23. 655	Station 1..	9 40	23. 734	66. 5	23. 657	Station 1..	9 55	23. 730	65. 5	23. 655
2		24. 455	64. 5	24. 404	2..		24. 455	66. 5	24. 400	2..		24. 458	68	24. 400	2..		24. 458	67	24. 402
3		25. 938	58	25. 880	3..		25. 933	57	25. 878	3..		25. 933	55	25. 882	3..		25. 930	54. 5	25. 881
4		27. 188	60. 5	27. 121	4..		27. 190	61	27. 122	4..		27. 191	60. 5	27. 124	4..		27. 190	59. 5	27. 125
Station 1.	9 11	23. 735	67. 5	23. 656	Station 1..	9 26	23. 734	67. 5	23. 655	Station 1 .	9 41	23. 732	66	23. 657	Station 1..	9 56	23. 726	65	23. 633
2.		24. 455	65	24. 403	2..		24. 455	67	24. 399	2..		24. 458	68	24. 400	2..		24. 458	67	24. 402
3.		25. 937	58	25. 879	3..		25. 934	56. 5	25. 880	3..		25. 931	55	25. 880	3..		25. 931	54. 5	25. 882
4.		27. 188	60. 5	27. 121	4..		27. 190	61	27. 122	4..		27. 191	60. 5	27. 124	4..		27. 168	59. 5	27. 123
Station 1.	9 12	23. 732	67. 5	23. 653	Station 1..	9 27	23. 732	67	23. 654	Station 1..	9 42	23. 734	66. 5	23. 657	Station 1..	9 57	23. 728	65	23. 655
2.		24. 455	65. 5	24. 402	2..		24. 455	67. 5	24. 398	2..		24. 460	68	24. 402	2..		24. 458	67	24. 402
3		25. 936	58	25. 878	3..		25. 934	56. 5	25. 880	3..		25. 931	55	25. 880	3..		25. 931	54. 5	25. 882
4.		27. 189	60. 5	27. 122	4..		27. 191	61	27. 123	4..		27. 191	60. 5	27. 124	4..		27. 188	59. 5	27. 123
Station 1.	9 13	23. 732	67. 5	23. 653	Station 1..	9 28	23. 722	67	23. 654	Station 1..	9 43	23. 730	66	23. 655	Station 1..	9 58	23. 730	65	23. 657
2		24. 458	66	24. 404	2..		24. 455	68	24. 396	2..		24. 459	68	24. 401	2..		24. 458	67	24. 402
3.		25. 937	57. 5	25. 881	3..		25. 934	56. 5	25. 880	3..		25. 931	55	25. 880	3..		25. 930	54. 5	25. 881
4.		27. 190	60. 5	27. 123	4..		27. 191	61	27. 123	4..		27. 191	60. 5	27. 124	4..		27. 188	59. 5	27. 123
Station 1.	9 14	23. 738	67. 5	23. 659	Station 1..	9 29	23. 736	67	23. 658	Station 1..	9 44	23. 730	66	23. 655	Station 1..	9 59	23. 732	65	23. 659
2.		24. 457	66	24. 403	2..		24. 455	68	24. 396	2..		24. 459	68	24. 401	2..		24. 458	67	24. 402
3.		25. 937	57. 5	25. 881	3..		25. 934	56. 5	25. 880	3..		25. 930	55	25. 879	3..		25. 930	54. 5	25. 881
4.		27. 190	60. 5	27. 123	4..		27. 191	60. 5	27. 124	4..		27. 191	60. 5	27. 124	4..		27. 188	59. 5	27. 123

Station No. 1.—Summit of Mount Washington. Elevation of barometer above sea-level.. 6,285.4 feet.
Station No. 2.—Above Jacob's Ladder. Elevation of barometer above sea-level.......... 5,553.3 feet.
Station No. 3.—Waumbeck House. Elevation of barometer above sea-level............. 4,058.7 feet.
Station No. 4.—Base of Mount Washington. Elevation of barometer above sea-level.... 2,898.3 feet.

NOTE.—Barometer-readings corrected for temperature and instrumental error only.

Meteorological record for June 21, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Station 1.	9 0	23.725	67	23.647	Station 1..	9 15	23.736	67.5	23.657	Station 1..	9 30	23.736	67	23.658	Station 1..	9 45	23.728	65.5	23.654
2.		24.450	67	24.394	2..		24.455	65.5	24.402	2..		24.455	68	24.396	2..		24.459	68	24.401
3.		25.938	60	25.876	3..		25.937	57.5	25.881	3..		25.935	56.5	25.881	3..		25.930	55	25.879
4		27.185	60	27.119	4..		27.190	60.5	27.123	4..		27.191	60.5	27.124	4..		27.191	60.5	27.124
Station 1.	9 1	23.725	67	23.647	Station 1..	9 16	23.736	67.5	23.657	Station 1..	9 31	23.738	67	23.660	Station 1..	9 46	23.730	66	23.655
2.		24.450	67	24.394	2..		24.455	65.5	24.402	2..		24.455	68	24.396	2..		24.459	68	24.401
3.		25.938	60	25.876	3..		25.936	57.5	25.880	3..		25.935	56	25.882	3..		25.930	54.5	25.881
4.		27.185	60	27.119	4..		27.190	61	27.122	4..		27.191	60.5	27.124	4..		27.190	60	27.124
Station 1	9 2	23.725	67	23.647	Station 1..	9 17	23.734	67.5	23.655	Station 1..	9 32	23.738	67	23.660	Station 1..	9 47	23.730	66	23.655
2.		24.450	67.5	24.393	2..		24.455	65.5	24.402	2..		24.455	68	24.396	2..		24.458	68	24.400
3.		25.938	59.5	25.877	3..		25.936	57.5	25.880	3..		25.934	56	25.881	3..		25.930	54.5	25.881
4.		27.185	60	27.119	4..		27.190	61	27.122	4..		27.191	60.5	27.124	4..		27.190	60	27.124
Station 1.	9 3	23.734	67.5	23.655	Station 1..	9 18	23.734	67.5	23.655	Station 1..	9 33	23.738	67	23.660	Station 1..	9 48	23.728	66	23.653
2.		24.452	67.5	24.395	2..		24.455	65.5	24.402	2..		24.455	68	24.396	2..		24.459	68	24.401
3.		25.937	59	25.877	3..		25.936	57.5	25.880	3..		25.934	56	25.881	3..		25.930	54.5	25.881
4.		27.188	60	27.122	4..		27.190	61	27.122	4..		27.191	60.5	27.124	4..		27.190	60	27.124
Station 1.	9 4	23.734	67.5	23.655	Station 1..	9 19	23.734	67.5	23.655	Station 1..	9 34	23.738	67	23.660	Station 1..	9 49	23.728	66	23.653
2.		24.455	67.5	24.398	2..		24.455	66	24.401	2..		24.457	68	24.399	2..		24.450	68	24.401
3		25.936	59	25.876	3..		25.936	57.5	25.880	3..		25.934	56	25.881	3..		25.930	54.5	25.881
4.		27.188	60	27.122	4..		27.190	61	27.122	4..		27.191	60.5	27.124	4..		27.190	60	27.124
Station 1	9 5	23.734	67.5	23.655	Station 1..	9 20	23.734	67.5	23.655	Station 1..	9 35	23.735	67	23.657	Station 1..	9 50	23.728	66	23.653
2		24.455	66.5	24.400	2..		24.455	66.5	24.400	2..		24.457	68	24.399	2..		24.459	67.5	24.402
3		25.937	58.5	25.878	3..		25.934	57	25.879	3..		25.934	55.5	25.882	3..		25.930	54.5	25.881
4		27.188	60	27.122	4..		27.190	61	27.122	4..		27.191	60.5	27.124	4..		27.190	60	27.124
Station 1	9 6	23.734	67.5	23.655	Station 1..	9 21	23.738	68	23.658	Station 1..	9 36	23.735	67	23.657	Station 1..	9 51	23.729	66	23.654
2		24.455	66	24.401	2..		24.455	67	24.399	2..		24.457	68	24.399	2..		24.457	67	24.401
3		25.937	58.5	25.878	3..		25.934	57	25.879	3..		25.934	55.5	25.882	3..		25.931	54.5	25.882
4.		27.188	60	27.122	4..		27.190	61	27.122	4..		27.192	60.5	27.125	4..		27.191	59.5	27.126
Station 1	9 7	23.734	67.5	23.655	Station 1..	9 22	23.738	68	23.658	Station 1..	9 37	23.735	67	23.657	Station 1..	9 52	23.727	66	23.652
2		24.455	65	24.403	2..		24.455	66.5	24.400	2..		24.457	68	24.399	2..		24.457	67	24.401
3		25.938	58.7	25.879	3..		25.934	57	25.879	3..		25.933	55	25.882	3..		25.931	54.5	25.882
4.		27.188	60.5	27.121	4..		27.190	61	27.122	4..		27.192	60.5	27.125	4..		27.191	59.5	27.126
Station 1.	9 8	23.732	67.5	23.653	Station 1..	9 23	23.737	68	23.658	Station 1..	9 38	23.735	67	23.657	Station 1..	9 53	23.725	65.5	23.650
2.		24.455	64.5	24.404	2..		24.455	68	24.401	2..		24.458	68	24.400	2..		24.458	67	24.402
3.		25.938	58	25.880	3..		25.935	57	25.880	3..		25.933	55	25.882	3..		25.931	54.5	25.882
4.		27.188	60.5	27.121	4..		27.190	61	27.122	4..		27.192	60.5	27.123	4..		27.191	59.5	27.126

Station 1.	9 9	23.732	67.5	23.653	Station 1..	9 24	23.734	67.5	23.655		9 39	23.735	67	23.657	Station 1..	9 54	23.728	65.5	23.657
2		24.455	64.5	24.404	2..		24.455	66.5	24.400	2..		24.458	68	24.400	2..		24.458	67	24.402
3		25.938	58	25.880	3..		25.935	57	25.880	3..		25.933	55	25.882	3..		23.931	54.5	25.882
4.		27.188	60.5	27.121	4..		27.190	61	27.122	4..		27.192	60.5	27.125	4..		27.190	59.5	27.125
Station 1	9 10	23.735	67.5	23.656	Station 1..	9 25	23.734	67.5	23.655	Station 1..	9 40	23.734	66.5	23.657	Station 1..	9 55	23.730	65.5	23.655
2		24.455	64.5	24.404	2..		24.455	66.5	24.400	2..		24.458	68	24.400	2..		24.458	67	24.402
3		25.938	58	25.680	3..		25.933	57	25.878	3..		25.933	55	25.882	3..		25.930	54.5	25.881
4		27.188	60.5	27.121	4..		27.190	61	27.122	4..		27.191	60.5	27.124	4..		27.190	59.5	27.125
Station 1.	9 11	23.735	67.5	23.656	Station 1..	9 26	23.734	67.5	23.655	Station 1 .	9 41	23.732	66	23.657	Station 1..	9 56	23.726	65	23.633
2.		24.455	65	24.403	2..		24.455	67	24.399	2..		24.458	68	24.400	2..		24.458	67	24.402
3.		25.937	58	25.879	3..		25.934	56.5	25.880	3..		25.931	55	25.880	3..		25.931	54.5	25.882
4.		27.188	60.5	27.121	4..		27.190	61	27.122	4..		27.191	60.5	27.124	4..		27.188	59.5	27.123
Station 1	9 12	23.732	67.5	23.653	Station 1..	9 27	23.732	67	23.654	Station 1..	9 42	23.734	66.5	23.657	Station 1..	9 57	23.728	65	23.655
2.		24.455	65.5	24.402	2..		24.455	67.5	24.398	2..		24.460	68	24.402	2..		24.458	67	24.402
3		25.936	58	25.878	3..		25.934	56.5	25.880	3..		25.931	55	25.880	3..		25.931	54.5	25.882
4.		27.189	60.5	27.122	4..		27.191	61	27.123	4..		27.191	60.5	27.124	4..		27.188	59.5	27.123
Station 1.	9 13	23.732	67.5	23.653	Station 1..	9 28	23.722	67	23.654	Station 1..	9 43	23.730	66	23.655	Station 1..	9 58	23.730	65	23.657
2.		24.458	66	24.404	2..		24.455	68	24.396	2..		24.459	68	24.401	2..		24.458	67	24.402
3.		25.937	57.5	25.881	3..		25.934	56.5	25.880	3..		25.931	55	25.880	3..		25.930	54.5	25.881
4.		27.190	60.5	27.123	4..		27.191	61	27.123	4..		27.191	60.5	27.124	4..		27.188	59.5	27.123
Station 1.	9 14	23.738	67.5	23.659	Station 1..	9 29	23.736	67	23.658	Station 1..	9 44	23.730	66	23.655	Station 1..	9 59	23.732	65	23.659
2.		24.457	66	24.403	2..		24.455	68	24.396	2..		24.459	68	24.401	2..		24.458	67	24.402
3.		25.937	57.5	25.881	3..		25.934	56.5	25.880	3..		25.930	55	25.879	3..		25.930	54.5	25.881
4.		27.190	60.5	27.123	4..		27.191	60.5	27.124	4..		27.191	60.5	27.124	4..		27.188	59.5	27.123

Station No. 1.—Summit of Mount Washington. Elevation of barometer above sea-level.. 6,285.4 feet.
Station No. 2.—Above Jacob's Ladder. Elevation of barometer above sea-level.......... 5,553.3 feet.
Station No. 3.—Waumbeck House. Elevation of barometer above sea-level.............. 4,058.7 feet.
Station No. 4.—Base of Mount Washington. Elevation of barometer above sea-level.... 2,898.3 feet.

NOTE.—Barometer-readings corrected for temperature and instrumental error only.

Meteorological record for June 22, 1873

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					p. m.					p. m.					p. m.			
Station 1.	9 0	24.008	63.5	23.938	Station 1..	9 15	24.022	68	23.942	Station 1..	9 30	24.024	68	23.944	Station 1..	9 45	24.029	68	23.949
2		24.668	60	24.627	2..		24.680	63.5	24.631	2..		24.683	65	24.631	2..		24.690	67	24.634
3.		26.169	59	26.109	3..		26.165	54.5	26.115	3..		26.163	54	26.115	3..		26.162	54.5	26.112
4.		27.425	60.5	27.358	4..		27.430	60.5	27.363	4..		27.430	60	27.364	4..		27.431	60	27.365
Station 1.	9 1	24.008	64	23.937	Station 1..	9 16	24.024	68	23.944	Station 1..	9 31	24.024	68	23.944	Station 1..	9 46	24.030	68	23.950
2		24.668	60.5	24.628	2..		24.680	63.5	24.631	2..		24.683	65	24.631	2..		24.691	67	24.635
3		26.169	58.5	26.110	3..		26.164	54.5	26.114	3..		26.165	54	26.117	3..		26.162	54.5	26.112
4		27.428	60.5	27.361	4..		27.430	60.5	27.363	4..		27.430	60	27.364	4..		27.431	60	27.365
Station 1.	9 2	24.009	64	23.938	Station 1..	9 17	24.024	68	23.944	Station 1..	9 32	24.024	68	23.944	Station 1..	9 47	24.030	68	23.950
2		24.668	61	24.625	2..		24.680	64	24.630	2..		24.683	65	24.631	2..		24.691	67	24.635
3		26.169	58.5	26.110	3..		26.164	55	26.113	3..		26.165	54	26.117	3..		26.163	54.5	26.113
4		27.428	60.5	27.361	4..		27.430	60.5	27.363	4..		27.430	60	27.364	4..		27.431	60	27.365
Station 1.	9 3	24.009	64.5	23.938	Station 1..	9 18	24.024	68	23.944	Station 1..	9 33	24.024	68	23.944	Station 1..	9 48	24.030	68	23.950
2.		24.668	61.5	24.624	2..		24.680	64	24.630	2..		24.683	65	24.631	2..		24.691	67	24.635
3.		26.169	58.5	26.110	3..		26.163	55	26.112	3..		26.164	54	26.116	3.		26.163	54	26.115
4.		27.428	60.5	27.361	4..		27.430	60.5	27.363	4..		27.430	60	27.364	4..		27.430	59.5	27.365
Station 1.	9 4	24.010	64.5	23.938	Station 1..	9 19	24.024	68	23.944	Station 1..	9 34	24.024	68	23.944	Station 1..	9 49	24.028	67	23.946
2.		24.670	62	24.625	2..		24.682	64	24.632	2..		24.683	65	24.631	2..		24.691	67	24.635
3		26.168	57	26.113	3..		26.165	53	26.114	3..		26.165	54	26.117	3..		26.162	54	26.114
4.		27.428	60.5	27.361	4..		27.430	60.5	27.363	4..		27.431	60	27.365	4..		27.430	59.5	27.365
Station 1.	9 5	24.010	65	23.937	Station 1..	9 20	24.024	68	23.944	Station 1..	9 35	24.024	68	23.944	Station 1..	9 50	24.028	67	23.946
2.		24.670	62	24.625	2.		24.682	64	24.632	2..		24.685	65	24.633	2		24.692	67	24.636
3		26.168	56	26.115	3..		26.165	53	26.114	3..		26.165	54	26.117	3		26.162	54.5	26.112
4		27.430	60.5	27.363	4		27.430	60.5	27.363	4..		27.431	60	27.365	4.		27.430	59.5	27.365
Station 1.	9 6	24.010	65	23.937	Station 1.	9 21	24.024	68	23.944	Station 1..	9 36	24.024	68	23.944	Station 1..	9 51	24.028	67	23.946
2		24.671	62	24.626	2..		24.682	64	24.632	2..		24.685	65.5	24.633	2..		24.692	67	24.636
3		26.168	56	26.115	3..		26.163	55	26.112	3..		26.165	54.5	26.115	3..		26.163	54.5	26.113
4		27.430	60.5	27.363	4..		27.430	60.5	27.363	4..		27.430	60	27.364	4..		27.430	59.5	27.365
Station 1	9 7	24.011	65	23.938	Station 1..	9 22	24.024	68	23.944	Station 1..	9 37	24.024	68	23.944	Station 1..	9 52	24.028	66.5	23.945
2		24.671	62.5	24.625	2..		24.682	64	24.632	2..		24.687	65.5	24.634	2..		24.692	67	24.636
3		26.170	55	26.119	3..		26.163	55	26.112	3..		26.164	54.5	26.114	3..		26.164	54.5	26.114
4.		27.431	60.5	27.304	4..		27.430	60.5	27.363	4 .		27.430	60	27.364	4..		27.430	59.5	27.365
Station 1.	9 8	24.013	65.5	23.939	Station 4..	9 23	24.024	68	23.944	Station 1..	9 38	24.024	68	23.944	Station 1..	9 53	24.028	66.5	23.945
2.		24.672	62.5	24.626	2..		24.682	64	24.632	2..		24.687	65.5	24.634	2..		24.692	67	24.636
3		26.170	55	26.119	3..		26.162	54.5	26.112	3..		26.164	54.5	26.114	3..		26.164	54.5	26.114
4		27.431	60.5	27.364	4..		27.430	60.5	27.363	4..		27.430	60	27.364	4 .		27.430	59.5	27.365

Station 1.	9 9	24.020	67	23.942	Station 1..	9 24	24.024	68	23.944	Station 1..	9 39	24.024	68	23.944	Station 1..	9 54	24.028	66	23.946
2.		24.675	62.5	24.628	2..		24.682	64	24.632	2..		24.688	66	24.634	2..		24.692	67	24.636
3		26.168	54.5	26.118	3..		26.162	54.5	26.112	3..		26.163	54.5	26.113	3..		26.165	54.5	26.115
4.		27.431	60.5	27.364	4..		27.431	60.5	27.364	4..		27.430	60	27.364	4..		27.431	60.5	27.364
Station 1	9 10	24.020	68	23.940	Station 1..	9 25	24.024	68	23.944	Station 1..	9 40	24.024	68	23.944	Station 1..	9 55	24.028	66	23.946
2		24.675	62.5	24.628	2..		24.683	64.5	24.631	2..		24.688	66	24.634	2..		24.693	67	24.637
3.		26.165	54	26.117	3..		26.162	54.5	26.112	3..		26.163	54.5	26.113	3..		26.165	54.5	26.115
4.		27.430	60.5	27.363	4..		27.431	60.5	27.364	4..		27.430	60	27.364	4..		27.431	60.5	27.364
Station 1.	9 11	24.020	68	23.940	Station 1..	9 26	24.024	68	23.944	Station 1..	9 41	24.024	68	23.944	Station 1..	9 56	24.028	65.5	23.945
2.		24.675	63	24.627	2..		24.682	64.5	24.631	2..		24.688	66	24.634	2..		24.695	67.5	24.638
3.		26.165	53.5	26.118	3..		26.162	54.5	26.112	3..		26.163	54.5	26.113	3..		26.165	54.5	26.115
4.		27.430	60.5	27.363	4..		27.431	60.5	27.364	4..		27.430	60	27.364	4..		27.431	60.5	27.364
Station 1.	9 12	24.022	68	23.942	Station 1..	9 27	24.024	68	23.944	Station 1..	9 42	24.029	68	23.949	Station 1..	9 57	24.028	65.5	23.945
2.		24.675	63	24.627	2.		24.682	64.5	24.631	2..		24.690	66.5	24.635	2..		24.695	67.5	24.638
3.		26.166	53.5	26.119	3..		26.162	54.5	26.112	3..		26.160	54.5	26.110	3..		26.165	54.5	26.115
4		27.430	60.5	27.363	4..		27.431	60.5	27.364	4..		27.430	60	27.364	4..		27.431	60.5	27.364
Station 1	9 13	24.022	68	23.942	Station 1..	9 28	24.024	68	23.944	Station 1..	9 43	24.030	68	23.950	Station 1..	9 58	24.028	65	23.944
2		24.675	63	24.627	2..		24.683	64.5	24.632	2..		24.690	66.5	24.635	2..		24.697	67.5	24.640
3.		26.164	54	26.116	3..		26.165	54.5	26.115	3..		26.161	54.5	26.111	3..		26.166	54.5	26.116
4		27.430	60.5	27.363	4..		27.430	60.5	27.363	4..		27.430	60	27.364	4..		27.431	60.5	27.364
Station 1.	9 14	24.023	68	23.943	Station 1..	9 29	24.024	68	23.944	Station 1..	9 44	24.030	68	23.950	Station 1..	9 59	24.028	65	23.944
2.		24.678	63	24.630	2..		24.683	64.5	24.632	2..		24.690	66.5	24.635	2..		24.697	67.5	24.640
3.		26.166	54	26.118	3..		26.161	54	26.113	3..		26.161	54.5	26.111	3..		26.166	54.5	26.116
4.		27.430	60.5	27.363	4..		27.430	60	27.364	4 .		27.430	60	27.364	4..		27.430	60.5	27.363

Station No. 1.—Summit of Mount Washington. Elevation of barometer above sea-level.. 6,285.4 feet.
Station No. 2.—Above Jacob's Ladder. Elevation of barometer above sea-level .... 5,553.3 feet.
Station No. 3.—Waumbeck House. Elevation of barometer above sea-level.............. 4,058.7 feet.
Station No. 4.—Base of Mount Washington. Elevation of barometer above sea-level...... 2,898.3 feet.

NOTE.—Barometer-readings corrected for temperature and instrumental error only.

Meteorological record for June 23, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Station 1	9 0	24.124	69	24.042	Station 1	9 15	24.125	69	24.043	Station 1	9 30	24.130	69	24.044	Station 1	9 45	24.138	71	24.052
2		24.782	65	24.728	2		24.788	66	24.732	2		24.791	66	24.735	2		24.792	65.5	24.737
3		26.258	67.5	26.177	3		26.258	64.5	26.184	3		26.262	66	26.184	3		26.265	66	26.187
4		27.480	63.5	27.405	4		27.485	63.5	27.410	4		27.492	64	27.416	4		27.493	63.5	27.418
Station 1	9 1	24.124	69	24.042	Station 1	9 16	24.125	69	24.043	Station 1	9 31	24.130	69.5	24.047	Station 1	9 46	24.138	71	24.052
2		24.782	65	24.728	2		24.788	66	24.732	2		24.791	66	24.735	2		24.792	65	24.738
3		26.258	67	26.178	3		26.258	64.5	26.184	3		26.262	66	26.184	3		26.265	65.5	26.189
4		27.480	63.5	27.405	4		27.486	63.5	27.411	4		27.492	64	27.416	4		27.492	63.5	27.417
Station 1	9 2	24.124	69	24.042	Station 1	9 17	24.125	69	24.043	Station 1	9 32	24.133	70	24.049	Station 1	9 47	24.138	71	24.052
2		24.782	65	24.728	2		24.788	66	24.732	2		24.791	66	24.735	2		24.792	65	24.738
3		26.258	67	26.178	3		26.259	65	26.184	3		26.262	66	26.184	3		26.265	65.5	26.189
4		27.480	63.5	27.405	4		27.489	63.5	27.414	4		27.493	64	27.417	4		27.492	63.5	27.417
Station 1	9 3	24.124	69	24.042	Station 1	9 18	24.125	68.5	24.044	Station 1	9 33	24.133	70	24.049	Station 1	9 48	24.138	71	24.052
2		24.782	65	24.728	2		24.788	66	24.732	2		24.791	66	24.735	2		24.792	65	24.738
3		26.259	66.5	26.180	3		26.259	65	26.184	3		26.260	66	26.182	3		26.265	65.5	26.189
4		27.480	63.5	27.405	4		27.490	63.5	27.415	4		27.495	64	27.419	4		27.493	63.5	27.418
Station 1	9 4	24.124	69	24.042	Station 1	9 19	24.125	68.5	24.044	Station 1	9 34	24.133	70	24.049	Station 1	9 49	24.138	71	24.052
2		24.782	65	24.728	2		24.790	66	24.734	2		24.791	66	24.735	2		24.790	65	24.736
3		26.258	66	26.180	3		26.260	65	26.185	3		26.261	66	26.183	3		26.264	65.5	26.188
4		27.480	63.5	27.405	4		27.490	63.5	27.415	4		27.495	64	27.419	4		27.493	63.5	27.418
Station 1	9 5	24.124	69	24.042	Station 1	9 20	24.125	68.5	24.044	Station 1	9 35	24.135	70	24.051	Station 1	9 50	24.138	71	24.052
2		24.782	65	24.728	2		24.790	66	24.734	2		24.791	66	24.735	2		24.790	64.5	24.738
3		26.258	65.5	26.182	3		26.260	65.5	26.184	3		26.263	66	26.185	3		26.264	65.5	26.188
4		27.480	63.5	27.405	4		27.491	63.5	27.416	4		27.495	64	27.419	4		27.493	63.5	27.418
Station 1	9 6	24.124	69	24.042	Station 1	9 21	24.125	68.5	24.044	Station 1	9 36	24.135	70	24.051	Station 1	9 51	24.138	71	24.052
2		24.782	65	24.728	2		24.790	66	24.734	2		24.791	66	24.735	2		24.790	64.5	24.738
3		26.259	64.5	26.185	3		26.260	65.5	26.183	3		26.264	66	26.186	3		26.264	65.5	26.188
4		27.480	63.5	27.405	4		27.491	63.5	27.416	4		27.495	64	27.419	4		27.493	63.5	27.418
Station 1	9 7	24.124	69	24.042	Station 1	9 22	24.125	68	24.045	Station 1	9 37	24.134	70	24.050	Station 1	9 52	24.138	71	24.052
2		24.782	65	24.728	2		24.790	66	24.734	2		24.793	66	24.737	2		24.790	64.5	24.738
3		26.260	64	26.187	3		26.260	65.5	26.183	3		26.265	66	26.187	3		26.262	65.5	26.186
4		27.480	63.5	27.405	4		27.491	63.5	27.416	4		27.495	64	27.419	4		27.493	63.5	27.418
Station 1	9 8	24.124	69	24.042	Station 1	9 23	24.125	67.5	24.046	Station 1	9 38	24.135	70	24.051	Station 1	9 53	24.138	71	24.082
2		24.784	65	24.730	2		24.790	66	24.734	2		24.793	66	24.737	2		24.790	64.5	24.738
3		26.260	63.5	26.188	3		26.259	65.5	26.182	3		26.265	66	26.187	3		26.262	65	26.187
4		27.481	63.5	27.406	4		27.492	63.5	27.417	4		27.495	64	27.419	4		27.493	63.5	27.418

Station 1.	9 9	24.124	69	24.042	Station 1..	9 24	24.126	67	24.048	Station 1..	9 39	24.135	70.5	24.050	Station 1..	9 54	24.138	71	24.052
2.		24.784	65	24.730	2..		24.790	66	24.734	2..		24.793	66	24.737	2..		24.790	64.5	24.738
3.		26.259	63.5	26.187	3..		26.260	66	26.182	3..		26.264	66	26.186	3..		26.262	65	26.187
4.		27.481	63.5	27.406	4..		27.492	64	27.416	4..		27.496	64	27.420	4..		27.493	63.5	27.418
Station 1.	9 10	24.124	69	24.042	Station 1..	9 25	24.126	67	24.048	Station 1..	9 40	24.136	70.5	24.051	Station 1..	9 55	24.138	71	24.052
2.		24.785	65	24.730	2..		24.791	66	24.735	2..		24.793	66	24.737	2..		24.790	64	24.739
3.		26.258	63.5	26.186	3..		26.260	66	26.182	3..		26.264	66	26.186	3..		26.202	65	26.187
4		27.482	63.5	27.407	4..		27.492	64	27.416	4..		27.496	64	27.420	4..		27.493	63.5	27.418
Station 1.	9 11	24.124	69	24.042	Station 1..	9 26	24.126	67	24.048	Station 1..	9 41	24.136	70.5	24.051	Station 1..	9 56	24.139	71.5	24.052
2.		24.785	65	24.730	2..		24.791	66	24.735	2..		24.793	66	24.737	2..		24.788	64	24.737
3.		26.257	63.5	26.185	3..		26.261	66	26.183	3..		26.265	66	26.187	3..		26.260	65	26.185
4.		27.482	63.5	27.407	4..		27.492	64	27.416	4..		27.496	63.5	27.421	4..		27.493	63.5	27.418
Station 1.	9 12	24.125	69	24.043	Station 1..	9 27	24.128	68	24.050	Station 1..	9 42	24.138	71	24.052	Station 1..	9 57	24.139	71.5	24.052
2		24.786	65.5	24.731	2..		24.791	66	24.735	2..		24.793	65.5	24.738	2..		24.788	64	24.737
3		26.258	64	26.185	3..		26.261	66	26.183	3..		26.265	66	26.187	3..		26.260	64.5	26.186
4.		27.482	63.5	27.407	4..		27.492	64	27.416	4..		27.495	63.5	27.420	4..		27.492	63.5	27.417
Station 1	9 13	24.125	69	24.043	Station 1..	9 28	24.128	68	24.050	Station 1..	9 43	24.138	71	24.052	Station 1..	9 58	24.139	71.5	24.052
2.		24.786	65.5	24.731	2..		24.791	66	24.735	2..		24.793	65.5	24.738	2..		24.788	64	24.737
3.		26.258	64.5	26.184	3..		26.261	66	26.183	3..		26.265	66	26.187	3..		26.260	64.5	26.186
4		27.483	63.5	27.408	4..		27.492	64	27.416	4..		27.493	63.5	27.418	4..		27.492	63.5	27.417
Station 1.	9 14	24.125	69	24.043	Station 1..	9 29	24.129	68.5	24.048	Station 1..	9 44	24.138	71	24.052	Station 1..	9 59	24.139	71.5	24.052
2		24.786	66	24.730	2..		24.791	66	24.735	2..		24.793	65.5	24.738	2..		24.789	64	24.738
3.		26.258	64.5	26.184	3..		26.262	66	26.184	3..		26.265	66	26.187	3..		26.260	64	26.187
4.		27.485	63.5	27.410	4..		27.492	64	27.416	4..		27.493	63.5	27.418	4..		27.492	63.5	27.417

Station No. 1.—Summit of Mount Washington. Elevation of barometer above sea-level.. 6,285.4 feet.
Station No. 2.—Above Jacob's Ladder. Elevation of barometer above sea-level.......... 5,553.3 feet.
Station No. 3.—Waumbeck House. Elevation of barometer above sea-level............... 4,058.7 feet.
Station No. 4.—Base of Mount Washington. Elevation of barometer above sea-level..... 2,898.3 feet.

NOTE.—Barometer-readings corrected for temperature and instrumental error only.

Meteorological record for June 24, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Station 1.	9 0	24.195	57.5	24.138	Station 1..	9 15	24.188	58	24.130	Station 1..	9 30	24.195	58.5	24.136	Station 1..	9 45	24.192	58	24.134
2.		24.850	63	24.801	2..		24.855	64.5	24.803	2..		24.860	64	24.809	2..		24.860	63.5	24.810
3		26.325	68	26.242	3..		26.330	66.5	26.251	3..		26.330	65.5	26.254	3..		26.330	65	26.255
4.		27.550	62.5	27.476	4..		27.545	63.5	27.469	4..		27.555	63.5	27.479	4..		27.553	62.5	27.479
Station 1	9 1	24.194	57.5	24.137	Station 1..	9 16	24.188	58	24.130	Station 1..	9 31	24.195	58.5	24.136	Station 1..	9 46	24.192	58	24.134
2.		24.852	63.5	24.802	2..		24.855	64.5	24.803	2..		24.860	64	24.809	2..		24.860	63.5	24.810
3		26.325	68	26.242	3..		26.330	66.5	26.251	3..		26.330	65	26.255	3..		26.330	65	26.255
4		27.550	62.5	27.476	4..		27.545	63.5	27.469	4..		27.555	63.5	27.479	4..		27.552	62	27.480
Station 1	9 2	24.193	57.5	24.136	Station 1..	9 17	24.188	58	24.130	Station 1..	9 32	24.195	58.5	24.136	Station 1..	9 47	24.192	58	24.134
2		24.852	63.5	24.802	2..		24.857	64.5	24.805	2..		24.860	64	24.809	2..		24.860	63.5	24.810
3.		26.325	68	26.242	3..		26.320	66	26.251	3..		26.330	65	26.255	3..		26.330	65	26.255
4.		27.550	62.5	27.476	4..		27.548	63.5	27.472	4..		27.558	63.5	27.482	4..		27.552	62	27.480
Station 1.	9 3	24.193	57.5	24.136	Station 1..	9 18	24.189	58.5	24.130	Station 1..	9 33	24.195	58.5	24.136	Station 1..	9 48	24.192	57.5	24.135
2.		24.852	64	24.801	2..		24.857	64.5	24.805	2..		24.860	64	24.809	2..		24.860	63.5	24.810
3.		26.325	68	26.242	3..		26.329	66	26.251	3..		26.330	65	26.255	3..		26.330	65	26.255
4.		27.550	62.5	27.476	4..		27.548	63.5	27.472	4..		27.558	63.5	27.482	4..		27.552	62	27.480
Station 1.	9 4	24.193	57.5	24.136	Station 1..	9 19	24.189	58.5	24.130	Station 1..	9 34	24.195	58.5	24.136	Station 1..	9 49	24.192	57.5	24.135
2		24.852	64	24.801	2..		24.857	64.5	24.805	2..		24.861	64	24.810	2..		24.860	63.5	24.810
3		26.325	68	26.242	3..		26.329	66	26.251	3..		26.330	65	26.255	3..		26.330	65	26.255
4		27.550	62.5	27.476	4..		27.548	63.5	27.472	4..		27.558	63.5	27.482	4..		27.552	62	27.480
Station 1	9 5	24.190	57.5	24.133	Station 1..	9 20	24.189	58	24.131	Station 1..	9 35	24.195	58.5	24.136	Station 1..	9 50	24.190	57	24.134
2.		24.852	64	24.801	2..		24.857	64.5	24.805	2..		24.861	64	24.810	2..		24.861	63.5	24.811
3		26.325	67.5	26.244	3..		26.329	66	26.251	3..		26.330	64.5	26.256	3..		26.330	65	26.255
4.		27.550	62.5	27.476	4..		27.548	63.5	27.472	4..		27.558	63.5	27.482	4..		27.552	62	27.480
Station 1	9 6	24.190	57.5	24.133	Station 1..	9 21	24.189	58	24.131	Station 1..	9 36	24.195	58.5	24.136	Station 1..	9 51	24.190	56.5	24.135
2		24.852	64	24.801	2..		24.857	64.5	24.805	2..		24.861	64	24.810	2..		24.861	63.5	24.811
3		26.328	67.5	26.247	3..		26.328	66	26.250	3..		26.330	64.5	26.256	3..		26.330	65	26.255
4		27.549	62.5	27.475	4..		27.548	63.5	27.472	4..		27.558	63	27.483	4..		27.552	62	27.480
Station 1.	9 7	24.190	57.5	24.133	Station 1..	9 22	24.189	58.5	24.130	Station 1..	9 37	24.195	58.5	24.136	Station 1..	9 52	24.190	56.5	24.135
2		24.852	64	24.801	2..		24.857	64.5	24.805	2..		24.861	64	24.810	2..		24.861	63.5	24.811
3		26.328	67	26.248	3..		26.328	66	26.250	3..		26.330	64.5	26.266	3..		26.330	65	26.255
4		27.549	62.5	27.475	4..		27.548	63.5	27.472	4..		27.556	63	27.481	4..		27.552	62	27.480
Station 1.	9 8	24.188	58	24.130	Station 1..	9 23	24.190	59	24.130	Station 1..	9 38	24.194	58	24.136	Station 1..	9 53	24.192	57	24.136
2.		24.853	64	24.802	2..		24.857	64.5	24.805	2..		24.861	63.5	24.811	2..		24.861	63.5	24.811
3		26.328	67	26.248	3..		26.327	66	26.249	3..		26.330	65	26.255	3..		26.330	65	26.255
4		27.548	62.5	27.474	4..		27.548	63.5	27.472	4..		27.555	63	27.480	4..		27.552	62	27.480

Station 1	9 9	24.189	58	24.131	Station 1..	9 24	24.190	59	24.130	Station 1..	9 39	24.192	58	24.134	Station 1..	9 54	24.192	57	24.136
2		24.853	64	24.802	2..		24.857	64.5	24.805	2..		24.861	63.5	24.811	2..		24.861	63	24.812
3		26.328	67	26.248	3..		26.327	66	26.249	3..		26.330	65	26.255	3..		26.330	65	26.255
4		27.548	62.5	27.474	4..		27.548	63.5	27.472	4..		27.555	63	27.480	4..		27.552	62	27.480
Station 1	9 10	24.188	58	24.130	Station 1..	9 25	24.190	59	24.130	Station 1..	9 40	24.192	58	24.134	Station 1..	9 55	24.192	57	24.136
2		24.854	64.5	24.802	2..		24.858	64.5	24.806	2..		24.861	63.5	24.811	2..		24.860	63	24.811
3		26.328	67	26.248	3..		26.330	66	26.252	3..		26.330	65	26.255	3..		26.330	65	26.255
4		27.545	62.5	27.471	4..		27.548	63.5	27.472	4..		27.555	63	27.480	4..		27.552	62	27.480
Station 1	9 11	24.188	58	24.130	Station 1..	9 26	24.190	59	24.130	Station 1..	9 41	24.193	58	24.134	Station 1..	9 56	24.192	57	24.136
2.		24.854	64.5	24.802	2..		24.858	64.5	24.806	2..		24.860	63.5	24.810	2..		24.860	63	24.811
3.		26.328	67	26.248	3..		26.330	65.5	26.254	3..		26.330	65	26.255	3..		26.330	65	26.255
4.		27.545	63	27.470	4..		27.550	63.5	27.474	4..		27.555	63	27.480	4..		27.552	62	27.480
Station 1	9 12	24.188	58	24.130	Station 1..	9 27	24.190	59	24.130	Station 1..	9 42	24.192	58	24.134	Station 1..	9 57	24.192	57	24.136
2		24.854	64.5	24.802	2..		24.858	64.5	24.806	2..		24.860	63.5	24.810	2..		24.859	63	24.810
3.		26.328	67	26.248	3..		26.330	65.5	26.254	3..		26.330	65	26.255	3..		26.330	65	26.255
4.		27.545	63	27.470	4..		27.550	63.5	27.474	4..		27.555	62.5	27.481	4..		27.552	62	27.480
Station 1.	9 13	24.188	58	24.130	Station 1..	9 28	24.190	59	24.130	Station 1..	9 43	24.192	58	24.134	Station 1..	9 58	24.191	57	24.135
2.		24.855	64.5	24.803	2..		24.858	64.5	24.806	2..		24.860	63.5	24.810	2..		24.859	63	24.810
3.		26.328	67	26.248	3..		26.330	65.5	26.254	3..		26.330	65	26.255	3..		26.330	65	26.255
4.		27.545	63	27.470	4..		27.552	63.5	27.476	4..		27.555	62.5	27.481	4..		27.552	62	27.480
Station 1.	9 14	24.188	58	24.130	Station 1..	9 29	24.192	59	24.132	Station 1..	9 44	24.192	58	24.134	Station 1..	9 59	24.191	57	24.135
2.		24.855	64.5	24.803	2..		24.860	64	24.809	2..		24.860	63.5	24.810	2..		24.860	63	24.811
3.		26.328	67	26.248	3..		26.330	65.5	26.254	3..		26.330	65	26.255	3..		26.330	65	26.255
4.		27.545	63	27.471	4..		27.555	63.5	27.479	4..		27.553	62.5	27.479	4..		27.552	62	27.480

Station No. 1.—Summit of Mount Washington. Elevation of barometer above sea-level.. 6,285.4 feet.
Station No. 2.—Above Jacob's Ladder. Elevation of barometer above sea-level.......... 5,553.3 feet.
Station No. 3.—Waumbeck House. Elevation of barometer above sea-level.............. 4,058.7 feet.
Station No. 4.—Base of Mount Washington. Elevation of barometer above sea-level..... 2,898.3 feet.

NOTE.—Barometer-readings corrected for temperature and instrumental error only.

Meteorological record for June 25, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Station 1	9 0	24.320	63	24.251	Station 1	9 15	24.322	65	24.249	Station 1	9 30	24.320	65	24.247	Station 1	9 45	24.318	65	24.245
2		24.975	58	24.937	2		24.975	59.5	24.934	2		24.971	61	24.926	2		24.972	61	24.926
3		26.465	72.5	26.372	3		26.464	69	26.379	3		26.458	68	26.375	3		26.448	67	26.368
4		27.675	67	27.500	4		27.675	67	27.590	4		27.678	68	27.591	4		27.670	67	27.585
Station 1	9 1	24.320	63	24.251	Station 1	9 16	24.322	65	24.249	Station 1	9 31	24.320	65	21.247	Station 1	9 46	24.318	65	24.245
2		24.975	58	24.937	2		24.975	59.5	24.934	2		24.972	61	24.927	2		24.971	61	24.926
3		26.465	72.5	26.372	3		26.464	69	26.370	3		26.458	68	26.375	3		26.448	67	26.368
4		27.675	67	27.590	4		27.675	67.5	27.589	4		27.678	68	27.391	4		27.670	67	27.585
Station 1	9 2	24.320	63	24.251	Station 1	9 17	24.322	65	24.249	Station 1	9 32	24.320	65	24.247	Station 1	9 47	24.318	65	24.245
2		24.975	58	24.937	2		24.976	60	24.934	2		24.971	61	24.926	2		24.971	61	24.926
3		26.465	71.5	26.374	3		26.464	69	26.379	3		26.457	67.5	26.376	3		26.448	67	26.368
4		27.675	67	27.590	4		27.675	67.5	27.589	4		27.678	68	27.501	4		27.670	67	27.585
Station 1	9 3	24.320	63.5	24.250	Station 1	9 18	24.322	65	24.249	Station 1	9 33	24.320	65	24.247	Station 1	9 48	24.318	65	24.245
2		24.975	58	24.937	2		24.976	60	24.934	2		24.971	61	24.926	2		24.972	61	24.927
3		26.465	71.5	26.374	3		26.460	68.5	26.376	3		26.458	67.5	26.374	3		26.449	67	26.369
4		27.675	67	27.590	4		27.675	67.5	27.589	4		27.676	68	27.589	4		27.670	67	27.585
Station 1	9 4	24.322	64	24.251	Station 1	9 19	24.322	65	24.249	Station 1	9 34	24.320	65	24.247	Station 1	9 49	24.318	65	24.245
2		24.975	58.5	24.926	2		24.975	60	24.933	2		24.971	61	24.926	2		24.972	61	24.927
3		26.467	71	26.377	3		26.461	68.5	26.377	3		26.458	67.5	26.374	3		26.450	67	26.370
4		27.673	67	27.588	4		27.676	67.5	27.590	4		27.676	68	27.589	4		27.670	67	27.585
Station 1	9 5	24.322	64	24.251	Station 1	9 20	24.322	65	24.249	Station 1	9 35	24.320	65	24.247	Station 1	9 50	24.318	65	24.245
2		24.974	58.5	24.935	2		24.975	60	24.934	2		24.971	61	24.926	2		24.972	61	24.927
3		26.467	70.5	26.379	3		26.461	68.5	26.377	3		26.453	67.5	26.372	3		26.450	67	26.370
4		27.673	67	27.588	4		27.676	67.5	27.590	4		27.675	68	27.588	4		27.670	67	27.585
Station 1	9 6	24.322	64	24.251	Station 1	9 21	24.322	65	24.249	Station 1	9 36	24.319	65	24.246	Station 1	9 51	24.318	65	24.245
2		24.975	58.5	24.936	2		24.976	60	24.934	2		24.972	60.5	24.928	2		24.971	61	24.926
3		26.467	70	26.380	3		26.460	68.5	26.376	3		26.453	67.5	26.372	3		26.450	67	26.370
4		27.673	67	27.590	4		27.676	67.5	27.590	4		27.675	68	27.588	4		27.671	67	27.586
Station 1	9 7	24.322	64	24.251	Station 1	9 22	24.322	65	24.249	Station 1	9 37	24.319	65	24.240	Station 1	9 52	24.318	65	24.245
2		24.974	58.5	24.935	2		24.977	60	24.935	2		24.971	60.5	24.927	2		24.972	61	24.927
3		26.465	70	26.378	3		26.460	68	26.377	3		26.453	67.5	26.372	3		26.450	67	26.370
4		27.675	67	27.590	4		27.676	67.5	27.590	4		27.673	68	27.586	4		27.671	66.5	27.587
Station 1	9 8	24.323	64.5	24.251	Station 1	9 23	24.322	65	24.249	Station 1	9 38	24.320	65	24.247	Station 1	9 53	24.318	65	24.245
2		24.974	58.5	24.935	2		24.977	60.5	24.934	2		24.971	60.5	24.927	2		24.973	61	24.928
3		26.465	69.5	26.379	3		26.460	66	26.377	3		26.453	67.5	26.374	3		26.449	67	26.369
4		27.675	67	27.590	4		27.676	67.5	27.590	4		27.673	68	27.586	4		27.672	66.5	27.588

Station 1.	9 9	24.328	65	24.250
2.		24.974	58.5	24.935
3.		26.464	69.5	26.378
4.		27.675	67	27.590
Station 1.	9 10	24.323	65	24.250
2.		24.974	59.5	24.935
3.		26.464	69.5	26.378
4.		27.675	67	27.590
Station 1.	9 11	24.323	65	24.250
2		24.975	58.5	24.936
3		26.462	69.5	26.376
4.		27.675	67	27.590
Station 1.	9 12	24.323	65	24.250
2.		24.973	58.5	24.934
3.		26.462	69.5	26.376
4.		27.675	67	27.590
Station 1.	9 13	24.323	65	24.250
2		24.974	59	24.934
3.		26.462	69.5	26.376
4.		27.675	67	27.590
Station 1.	9 14	24.322	65	24.249
2.		24.974	59	24.934
3.		26.466	69	26.381
4.		27.675	67	27.590
Station 1..	9 24	24.322	65	24.249
2..		24.977	60.5	24.934
3..		26.460	68	26.377
4..		27.675	67.5	27.590
Station 1..	9 25	24.322	65	24.249
2..		24.977	60.5	24.934
3..		26.460	68	26.377
4..		27.675	67.5	27.590
Station 1..	9 26	24.322	65	24.249
2..		24.975	60.5	24.932
3..		26.460	68	26.377
4..		27.675	67.5	27.590
Station 1..	9 27	24.321	65	24.248
2..		24.975	60.5	24.932
3..		26.460	68	26.377
4..		27.676	67.5	27.590
Station 1..	9 28	24.320	65	24.247
2..		24.975	60.5	24.932
3..		26.460	68	26.377
4..		27.676	68	27.589
Station 1..	9 29	24.320	65	24.247
2..		24.975	61	24.930
3..		26.459	68	26.376
4..		27.678	68	27.591
Station 1..	9 39	24.318	65	24.245
2 .		24.970	60.5	24.926
3..		26.453	67.5	26.372
4..		27.672	68	27.585
Station 1..	9 40	24.318	65	24.245
2..		24.972	60.5	24.928
3..		26.451	67.5	26.370
4..		27.672	68	27.585
Station 1..	9 41	24.317	65	24.244
2..		24.971	60.5	24.927
3..		26.450	67.5	26.369
4..		27.672	67.5	27.586
Station 1..	9 42	24.317	65	24.244
2..		24.971	60.5	24.927
3..		26.449	67.5	26.368
4..		27.670	67.5	27.584
Station 1..	9 43	24.317	65	24.244
2..		24.972	60.5	24.928
3..		26.449	67.5	26.368
4..		27.670	67.5	27.584
Station 1..	9 44	24.317	65	24.244
2..		24.972	60.5	24.928
3..		26.450	67.5	26.369
4..		27.670	67.5	27.584
Station 1..	9 54	24.318	65	24.245
2..		24.973	61	24.928
3..		26.450	66.5	26.371
4..		27.671	66.5	27.587
Station 1..	9 55	24.318	65	24.245
2..		24.973	61	24.928
3..		26.450	66.5	26.371
4..		27.671	66	27.589
Station 1..	9 56	24.318	65	24.245
2..		24.973	61	24.928
3..		26.450	66.5	26.371
4..		27.671	66	27.589
Station 1..	9 57	24.318	65	24.245
2..		24.973	61	24.928
3..		26.450	66.5	26.371
4..		27.671	66	27.589
Station 1..	9 58	24.318	65	24.245
2..		24.972	61	24.927
3..		26.450	66.5	26.371
4..		27.671	66	27.589
Station 1..	9 59	24.318	65	24.245
2..		24.972	61	24.927
3..		26.450	66.5	26.371
4..		27.671	66	27.589

Station No. 1.—Summit of Mount Washington. Elevation of barometer above sea-level..	6,285.4 feet.
Station No. 2.—Above Jacob's Ladder. Elevation of barometer above sea-level	5,553.3 feet.
Station No. 3.—Waumbeck House. Elevation of barometer above sea-level	4,058.7 feet.
Station No. 4.—Base of Mount Washington. Elevation of barometer above sea-level......	2,898.3 feet.

NOTE.—Barometer-readings corrected for temperature and instrumental error only.

Meteorological record for June 26, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Station 1.	9 0	24. 134	60	24. 071	Station 1 ..	9 15	24. 129	59	24. 069	Station 1..	9 30	24. 125	58. 5	24. 066	Station 1..	9 45	24. 124	58	24. 066
2.		24. 815	60	24. 773	2..		24. 815	60	24. 773	2..		24. 812	59. 5	24. 771	2..		24. 809	59	24. 769
3.		26. 315	72. 5	26. 222	3..		26. 306	69	26. 221	3..		26. 302	68. 5	26. 218	3..		26. 300	68	26. 217
4.		27. 520	69	27. 430	4..		27. 510	69	27. 420	4..		27. 506	68. 5	27. 417	4..		27. 503	69. 5	27. 412
Station 1.	9 1	24. 134	60	24. 071	Station 1..	9 16	24. 129	59	24. 069	Station 1..	9 31	24. 125	58. 5	24. 066	Station 1..	9 46	24. 124	58	24. 066
2		24. 815	60	24. 773	2..		24. 814	60	24. 772	2..		24. 810	59. 5	24. 769	2..		24. 808	59	24. 768
3.		26. 313	72. 5	26. 220	3..		26. 305	69. 5	26. 219	3..		26. 301	68. 5	26. 217	3..		26. 298	67	26. 218
4.		27. 520	69	27. 430	4..		27. 510	69	27. 420	4..		27. 505	68. 5	27. 416	4..		27. 505	69. 5	27. 414
Station 1	9 2	24. 134	60	24. 071	Station 1..	9 17	24. 128	59	24. 068	Station 1..	9 32	24. 125	58. 5	24. 066	Station 1..	9 47	24. 124	58	24. 066
2.		24. 815	60	24. 773	2..		24. 816	60	24. 774	2..		24. 810	59. 5	24. 769	2..		24. 808	59	24. 768
3		26. 311	72	26. 219	3..		26. 305	69. 5	26. 219	3..		26. 300	68. 5	26. 216	3..		26. 298	67	26. 218
4.		27. 520	69	27. 430	4..		27. 510	69	27. 420	4..		27. 505	69	27. 415	4..		27. 505	69. 5	27. 414
Station 1	9 3	24. 134	60	24. 071	Station 1..	9 18	24. 126	59	24. 066	Station 1..	9 33	24. 125	58. 5	24. 066	Station 1..	9 48	24. 124	58	24. 066
2		24. 815	60	24. 773	2..		24. 815	59. 5	24. 774	2..		24. 808	59. 5	24. 767	2..		24. 810	59	24. 770
3		26. 311	72	26. 219	3..		26. 305	69. 5	26. 219	3..		26. 300	68. 5	26. 216	3..		26. 298	67. 5	26. 217
4		27. 518	69	27. 428	4..		27. 510	69	27. 420	4..		27. 505	69	27. 415	4..		27. 505	69. 5	27. 414
Station 1.	9 4	24. 133	60	24. 070	Station 1..	9 19	24. 126	59	24. 066	Station 1..	9 34	24. 125	58. 5	24. 066	Station 1..	9 49	24. 124	58	24. 066
2		24. 815	60	24. 773	2..		24. 818	59. 5	24. 777	2..		24. 809	59. 5	24. 768	2..		24. 808	59	24. 768
3		26. 311	71. 5	26. 220	3..		26. 305	69. 5	26. 219	3..		26. 300	69	26. 215	3..		26. 298	67. 5	26. 217
4.		27. 518	69	27. 428	4..		27. 510	69	27. 420	4..		27. 503	69. 5	27. 412	4..		27. 505	60. 5	27. 414
Station 1	9 5	24. 133	60	24. 070	Station 1..	9 20	24. 126	59	24. 066	Station 1..	9 35	24. 125	58. 5	24. 066	Station 1..	9 50	24. 124	58	24. 066
2		24. 818	60	24. 776	2..		24. 818	59. 5	24. 777	2..		24. 810	59. 5	24. 769	2..		24. 810	59	24. 770
3.		26. 311	71. 5	26. 220	3..		26. 305	69. 5	26. 219	3..		26. 300	69	26. 215	3..		26. 298	67. 5	26. 217
4		27. 518	69	27. 428	4..		27. 510	68. 5	27. 421	4..		27. 503	69. 5	27. 412	4..		27. 505	69. 5	27. 414
Station 1	9 6	24. 130	59. 5	24. 068	Station 1..	9 21	24. 126	59	24. 066	Station 1..	9 36	24. 124	58	24. 066	Station 1..	9 51	24. 123	58	24. 065
2		24. 818	60	24. 776	2..		24. 816	59. 5	24. 775	2..		24. 810	59. 5	24. 769	2..		24. 810	59	24. 770
3		26. 311	71. 5	26. 220	3..		26. 305	69. 5	26. 219	3..		26. 300	69	26. 215	3..		26. 298	67. 5	26. 217
4		27. 518	69	27. 428	4..		27. 510	68. 5	27. 421	4..		27. 503	69. 5	27. 412	4..		27. 505	69. 5	27. 414
Station 1.	9 7	24. 130	59. 5	24. 068	Station 1..	9 22	24. 126	59	24. 066	Station 1..	9 37	24. 124	58	24. 066	Station 1..	9 52	24. 123	58	24. 065
2.		24. 818	60	24. 776	2..		24. 815	59. 5	24. 774	2..		24. 810	59. 5	24. 769	2..		24. 812	50	24. 772
3		26. 310	70. 5	26. 222	3..		26. 306	69. 5	26. 220	3..		26. 300	69	26. 215	3..		27. 295	67. 5	26. 214
4.		27. 516	69	27. 426	4..		27. 510	68. 5	27. 421	4..		27. 503	69. 5	27. 412	4..		27. 505	69. 5	27. 414
Station 1.	9 8	24. 130	59. 5	24. 068	Station 1..	9 23	24. 126	59	24. 066	Station 1..	9 38	24. 124	58	24. 066	Station 1..	9 53	24. 123	58	24. 065
2.		24. 815	60	24. 773	2..		24. 817	59. 5	24. 776	2..		24. 810	59. 5	24. 769	2..		24. 812	59	24. 772
3.		26. 310	69. 5	26. 224	3..		26. 304	69. 5	26. 218	3..		26. 300	69	26. 215	3..		26. 295	67. 5	26. 214
4.		27. 515	69	27. 425	4..		27. 510	68. 5	27. 421	4..		27. 503	69. 5	27. 413	4..		27. 505	69. 5	27. 414

Station 1.	9 9	24.130	59.5	24.068	Station 1..	9 24	24.126	59	24.066	Station 1..	9 39	24.124	58	24.066	Station 1..	9 54	24.123	58	24.065
2		24.818	60	24.776	2..		24.815	59.5	24.774	2..		24.810	59.5	24.769	2..		24.810	59	24.770
3.		26.310	69.5	26.224	3..		26.302	69.5	26.216	3..		26.299	68.5	26.215	3..		26.295	67.5	26.214
4.		27.515	69	27.425	4..		27.509	68.5	27.420	4..		27.503	69.5	27.412	4..		27.505	69.5	27.414
Station 1.	0 10	24.129	59	24.069	Station 1..	9 25	24.126	59	24.066	Station 1..	9 40	24.124	58	24.066	Station 1..	9 55	24.123	58	24.065
2		24.817	60	24.775	2..		24.817	59.5	24.776	2..		24.810	59	24.770	2..		24.810	59	24.770
3.		26.305	69.5	26.219	3..		26.302	69.5	26.216	3..		26.300	68.5	26.216	3..		26.295	67	26.215
4.		27.515	69	27.425	4..		27.509	68.5	27.420	4..		27.503	60.5	27.412	4..		27.505	69.5	27.414
Station 1.	9 11	24.126	59	24.069	Station 1..	9 26	24.126	59	24.066	Station 1..	9 41	24.124	58	24.066	Station 1..	9 56	24.123	58	24.065
2.		24.818	60	24.776	2..		24.814	59.5	24.773	2..		24.810	59	24.770	2..		24.810	58.5	24.769
3		26.306	69	26.221	3..		26.303	69.5	26.217	3..		26.300	68.5	26.216	3..		26.294	67	26.214
4.		27.513	69	27.423	4..		27.509	68.5	27.420	4..		27.503	69.5	27.412	4..		27.505	69.5	27.414
Station 1	9 12	24.129	59	24.069	Station 1..	9 27	24.126	59	24.066	Station 1..	9 42	24.124	58	24.066	Station 1..	9 57	24.123	56	24.065
2.		24.818	60	24.776	2..		24.812	59.5	24.771	2..		24.810	59	24.770	2..		24.810	58.5	24.769
3.		26.306	68.5	26.222	3..		26.303	69.5	26.217	3..		26.300	68	26.217	3..		26.294	67	26.214
4.		27.512	69	27.422	4..		27.508	68.5	27.419	4..		27.503	69.5	27.412	4..		27.505	69.5	27.414
Station 1	9 13	24.129	59	24.069	Station 1..	9 28	24.125	58.5	24.066	Station 1..	9 43	24.124	58	24.066	Station 1..	9 58	24.123	58	24.065
2		24.813	60	24.771	2..		24.812	59.5	24.771	2..		24.810	59	24.770	2..		24.810	58.5	24.769
3.		26.306	68.5	26.222	3..		26.302	69.5	26.216	3..		26.300	68	26.217	3..		26.295	67	26.215
4.		27.511	69	27.421	4..		27.508	68.5	27.419	4..		27.503	69.5	27.412	4..		27.505	69.5	27.414
Station 1	9 14	24.129	59	24.069	Station 1..	9 29	24.125	58.5	24.066	Station 1..	9 44	24.124	58	24.066	Station 1..	9 59	24.123	58	24.065
2		24.815	60	24.773	2..		24.815	59.5	24.774	2..		23.810	59	24.770	2..		24.810	58.5	24.769
3		26.306	69	26.221	3..		26.302	69	26.217	3..		26.300	68	26.217	3.		26.295	67	26.215
4.		27.510	69	27.420	4..		27.506	68.5	27.417	4..		27.503	69.5	27.412	4..		27.505	69.5	27.414

Station No. 1.—Summit of Mount Washington. Elevation of barometer above sea-level.. 6,285.4 feet.
Station No. 2.—Above Jacob's Ladder. Elevation of barometer above sea-level.......... 5,553.3 feet.
Station No. 3.—Waumbeck House. Elevation of barometer above sea-level............. 4,058.7 feet.
Station No. 4.—Base of Mount Washington. Elevation of barometer above sea-level.... 2,898.3 feet.

NOTE.—Barometer-readings corrected for temperature and instrumental error only

Meteorological record for June 27, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Station 1.	9 0	23. 868	60	23. 805	Station 1..	9 15	23. 864	60	23. 801	Station 1..	9 30	23. 859	60	23. 796	Station 1..	9 45	23. 849	60. 5	28. 785
2		24. 543	59	24. 504	2..		24. 543	61	24. 500	2..		24. 540	61	24. 497	2..		24. 544	61	24. 501
3.		26. 030	73	25. 938	3..		26. 028	67	25. 945	3..		26. 018	68	25. 937	3..		26. 010	66. 5	25. 933
4.		27. 215	71. 5	27. 121	4..		27. 210	71. 5	27. 116	4..		27. 209	71. 5	27. 115	4..		27. 205	71. 5	27. 111
Station 1.	9 1	23. 868	60	23. 805	Station 1..	9 16	23. 864	60	23. 801	Station 1..	9 31	23. 856	60	23. 793	Station 1..	9 46	23. 849	60. 5	23. 785
2.		24. 543	59	24. 504	2..		24. 545	61	24. 502	2..		24. 540	61	24. 497	2..		24. 543	61	24. 500
3.		26. 030	73	25. 938	3..		26. 028	67	25. 945	3..		26. 018	68	25. 937	3..		26. 009	66. 5	25. 932
4.		27. 215	71. 5	27. 121	4..		27. 210	71. 5	27. 116	4..		27. 208	71. 5	27. 114	4..		27. 205	71. 5	27. 111
Station 1.	9 2	23. 865	60	23. 802	Station 1..	9 17	23. 864	60	23. 801	Station 1..	9 32	23. 855	60	23. 792	Station 1..	9 47	23. 848	60. 5	23. 784
2.		24. 543	59. 5	24. 503	2..		24. 545	61	24. 502	2..		24. 542	61	24. 499	2..		24. 540	61	24. 497
3.		26. 030	72	25. 940	3..		26. 028	67	25. 945	3..		26. 018	68	25. 937	3..		26. 009	66. 5	25. 932
4.		27. 215	71. 5	27. 121	4..		27. 210	71. 5	27. 116	4..		27. 208	71. 5	27. 114	4..		27. 205	71. 5	27. 111
Station 1	9 3	23. 864	59. 5	23. 802	Station 1..	9 18	23. 864	60	23. 801	Station 1..	9 33	23. 855	60. 5	23. 791	Station 1..	9 48	23. 849	60. 5	23. 785
2.		24. 543	59. 5	24. 503	2..		24. 545	61	24. 502	2..		24. 543	61	24. 500	2..		24. 539	61	24. 496
3		26. 030	72	25. 940	3..		26. 025	68. 5	25. 943	3..		26. 018	67. 5	25. 939	3..		26. 009	66. 5	25. 932
4.		27. 215	71. 5	27. 121	4..		27. 210	71. 5	27. 116	4..		27. 208	71. 5	27. 114	4..		27. 205	71. 5	27. 111
Station 1.	9 4	23. 865	60	23. 802	Station 1..	9 19	23. 864	60	23. 801	Station 1..	9 34	23. 855	60. 5	23. 791	Station 1..	9 49	23. 846	60. 5	23. 782
2.		24. 543	60	24. 502	2..		24. 546	61	24. 503	2..		24. 540	61	24. 497	2..		24. 540	61	24. 497
3		26. 030	72. 5	25. 939	3..		26. 025	68. 5	25. 943	3..		26. 015	67	25. 937	3..		26. 009	66. 5	25. 932
4		27. 215	71. 5	27. 121	4..		27. 210	71. 5	27. 116	4..		27. 208	71. 5	27. 114	4..		27. 205	71. 5	27. 111
Station 1	9 5	23. 865	60	23. 802	Station 1..	9 20	23. 864	60	23. 801	Station 1..	9 35	23. 853	60. 5	23. 789	Station 1..	9 50	23. 845	60. 5	23. 781
2		24. 545	60	24. 504	2..		24. 547	61	24. 504	2..		24. 543	61	24. 500	2..		24. 538	60. 5	24. 496
3		26. 030	72. 5	25. 939	3..		26. 025	68. 5	25. 943	3..		26. 015	67	25. 937	3..		26. 009	66. 5	25. 932
4		27. 215	71. 5	27. 121	4..		27. 210	71. 5	27. 116	4..		27. 208	71. 5	27. 114	4..		27. 205	71. 5	27. 111
Station 1.	9 6	23. 865	60	23. 802	Station 1..	9 21	23. 864	60	23. 801	Station 1..	9 36	23. 850	60. 5	23. 786	Station 1..	9 51	23. 840	60	23. 777
2		24. 542	60	24. 501	2..		24. 545	61	24. 502	2..		24. 543	61	24. 500	2..		24. 542	60. 5	24. 500
3		26. 030	71	25. 942	3..		26. 022	68. 5	25. 940	3..		26. 012	66. 5	25. 935	3..		26. 009	66. 5	25. 932
4		27. 215	71. 5	27. 121	4..		27. 210	71. 5	27. 116	4..		27. 206	71. 5	27. 112	4..		27. 205	71. 5	27. 111
Station 1	9 7	23. 865	60	23. 802	Station 1..	9 22	23. 864	60	23. 801	Station 1..	9 37	23. 849	60. 5	23. 785	Station 1..	9 52	23. 841	60	23. 778
2.		24. 542	60	24. 501	2..		24. 548	61	24. 505	2..		24. 540	61	24. 497	2..		24. 542	60. 5	24. 500
3.		26. 030	71	25. 942	3..		26. 022	68. 5	25. 940	3..		26. 012	66. 5	25. 935	3..		26. 005	66	25. 929
4.		27. 215	71. 5	27. 121	4..		27. 210	71. 5	27. 116	4..		27. 206	71. 5	27. 112	4..		27. 205	71. 5	27. 111
Station 1	9 8	23. 864	60	23. 801	Station 1..	9 23	23. 864	60	23. 801	Station 1..	9 38	23. 847	60. 5	23. 783	Station 1..	9 53	23. 842	60	23. 779
2.		24. 545	60. 5	24. 503	2..		24. 543	61	24. 500	2..		24. 544	61	24. 501	2..		24. 540	60. 5	24. 498
3		26. 030	71	25. 942	3..		26. 022	68. 5	25. 940	3..		26. 012	66. 5	25. 935	3..		26. 005	66	25. 929
4		27. 213	71. 5	27. 119	4..		27. 210	71. 5	27. 116	4..		27. 206	71. 5	27. 112	4..		27. 205	71. 5	27. 111

Station 1.	9 9	23.864	60	23.801	Station 1..	9 24	23.862	60.5	23.798	Station 1..	9 39	23.846	60.5	23.782	Station 1..	9 54	23.842	60	23.779
2.		24.543	60.5	24.501	2..		24.540	61	24.497	2..		24.540	61	24.497	2..		24,543	60.5	24.501
3.		26.028	70	25.943	3..		26.020	68.5	25.938	3..		26.012	66.5	25.935	3..		26.005	66	25.929
4		27.212	71.5	27.118	4..		27.209	71.5	27.115	4..		27.205	71.5	27.111	4..		27.205	71.5	27.111
Station 1.	9 10	23.864	60	23.801	Station 1..	9 25	23.862	60.5	23.798	Station 1..	9 40	23.850	60.5	23.786	Station 1..	9 55	23.842	60	23.779
2.		24.545	60.5	24.503	2..		24.545	61	24.502	2..		24.543	61	24.500	2..		21.543	60.5	24.501
3		26.028	70	25.943	3..		26.020	68.8	25.938	3..		26.010	66.5	25.933	3..		26.005	66	25.929
4.		27.212	71.5	27.118	4..		27.209	71.5	27.115	4..		27.205	71.5	27.111	4..		27.203	71.5	27.111
Station 1.	9 11	23.864	60	23.801	Station 1..	9 26	23.860	60	23.797	Station 1..	9 41	23.847	60.5	23.783	Station 1..	9 56	23.841	60	23.778
2.		24.545	60.5	24.503	2..		24.543	61	24.500	2..		24.542	61	24.499	2..		24.540	60.5	24.498
3.		26.028	70	25.943	3..		26.020	68.5	25.938	3..		26.010	66.5	25.933	3..		26.005	65.5	25.930
4.		27.211	71.5	27.117	4..		27.209	71.5	27.115	4..		27.205	71.5	27.111	4..		27.205	71.5	27.111
Station 1.	9 12	23.864	60	23.801	Station 1..	9 27	23.860	60	23.797	Station 1..	9 42	23.848	60.5	23.784	Station 1..	9 57	23.841	60	23.778
2.		24.545	60.5	24.503	2..		24.540	61	24.497	2..		24.543	61	24.500	2..		24.542	60.5	24.500
3		26.028	69.5	25.944	3..		26.020	68.5	25.938	3..		26.010	66.5	25.933	3..		26.005	65.5	25.930
4.		27.210	71.5	27.116	4..		27.209	71.5	27.115	4..		27,205	71.5	27.111	4..		27.205	71.5	27.111
Station 1.	9 13	23.864	60	23.801	Station 1..	9 28	23.859	60	23.796	Station 1..	9 43	23.848	60.5	23.784	Station 1..	9 58	23.842	60	23.779
2.		24.546	60.5	24.504	2..		24.540	61	24.497	2..		24.543	61	24.500	2..		24.542	60.5	24.500
3		26.028	69.5	25.944	3..		26.018	68	25.937	3..		26.010	66.5	25.933	3..		26.002	65.5	25.927
4.		27.210	71.5	27.116	4..		27.209	71.5	27.115	4..		27.205	71.5	27.111	4..		27.205	71.5	27.111
Station 1.	9 14	23.864	60	23.801	Station 1..	9 29	23.859	60	23.796	Station 1..	9 44	23.849	60.5	23.785	Station 1..	9 59	23.842	60	23.779
2.		24.545	60.5	24.504	2..		24.545	61	24.502	2..		24.544	61	24.501	2..		24.543	60.5	24.501
3.		26.028	67	25.945	3..		26.018	68	25.937	3..		26.010	66.5	25.933	3..		26.002	65.5	25.927
4.		27.210	71.5	27.116	4..		27.209	71.5	27.115	4..		27.205	71.5	27.111	4..		27.205	71.5	27.111

Station No. 1.—Summit of Mount Washington. Elevation of barometer above sea-level.. 6,285.4 feet.
Station No. 2.—Above Jacob's Ladder. Elevation of barometer above sea-level.......... 5,553.3 feet.
Station No. 3.—Waumbeck House. Elevation of barometer above sea-level.............. 4,058.7 feet.
Station No. 4.—Base of Mount Washington. Elevation of barometer above sea-level..... 2,898.3 feet.

NOTE.—Barometer-readings corrected for temperature and instrumental error only.

Meteorological record for June 28, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Station 1.	9 0	23.872	71	23.786	Station 1..	9 15	23.874	74.5	23.780	Station 1..	9 30	23.881	75.5	23.785	Station 1..	9 45	23.881	76	23.784
2.		24.505	65	24.433	2..		24.512	67	24.456	2..		24.513	68.5	24.453	2..		24.514	68.5	24.454
3.		25.953	68.5	25.870	3..		25.953	64	25.880	3..		25.943	62.5	25.875	3..		25.940	61.5	25.875
4.		27.161	68	27.076	4..		27.162	67.5	27.078	4..		27.161	67.5	27.077	4..		27.162	69.5	27.073
Station 1.	9 1	23.872	71	23.786	Station 1..	9 16	23.874	74.5	23.780	Station 1..	9 31	23.881	75.5	23.785	Station 1..	9 46	23.881	76	23.784
2.		24.505	65	24.453	2..		24.512	67	24.456	2..		24.513	68.5	24.453	2..		24.514	68.5	24.454
3.		25.955	68.5	25.871	3..		25.930	64	25.879	3..		25.943	62.5	25.875	3..		25.940	61.5	25.875
4.		27.161	68	27.076	4..		27.162	67.5	27.078	4..		27.161	67.5	27.077	4..		27.162	70	27.072
Station 1	9 2	23.873	71	23.787	Station 1..	9 17	23.876	75	23.781	Station 1..	9 32	23.881	75.5	23.785	Station 1..	9 47	23.881	76	23.784
2		24.505	65.5	24.452	2..		24.513	67.5	24.455	2..		24.513	68.5	24.453	2..		24.514	68.5	24.454
3		25.955	68	25.874	3..		25.930	64	25.879	3..		25.942	62.5	25.874	3..		25.939	61.5	25.874
4		27.161	68	27.076	4..		27.162	67.5	27.078	4..		27.161	67.5	27.077	4..		27.162	70	27.072
Station 1	9 3	23.873	71	23.787	Station 1..	9 18	23.876	75	23.781	Station 1..	9 33	23.881	76	23.784	Station 1..	9 48	23.881	76	23.784
2		24.509	66	24.455	2..		24.512	67.5	24.455	2..		24.513	68.5	24.453	2..		24.514	68.5	24.454
3.		25.955	67	25.877	3..		25.950	64	25.879	3..		25.941	62.5	25.873	3..		25.940	61.5	25.875
4.		27.161	68	27.076	4..		27.162	67.5	27.078	4..		27.161	67.5	27.077	4..		27.162	70	27.072
Station 1.	9 4	23.873	71	23.787	Station 1..	9 19	23.880	75	23.785	Station 1..	9 34	23.881	76	23.784	Station 1..	9 49	23.881	76	23.784
2.		24.509	66	24.455	2..		24.513	67.5	24.455	2..		24.513	68.5	24.453	2..		24.514	68.5	24.454
3.		25.955	66	25.879	3..		25.948	63.5	25.878	3..		25.940	62.5	25.872	3..		25.940	61.5	25.875
4.		27.161	68	27.076	4..		27.162	67.5	27.078	4..		27.161	67.5	27.077	4..		27.162	70	27.072
Station 1.	9 5	23.873	71	23.787	Station 1..	9 20	23.880	75	23.783	Station 1..	9 35	23.881	76	23.784	Station 1..	9 50	23.881	76	23.784
2.		24.509	66	24.455	2..		24.512	68	24.454	2..		24.513	68.5	24.453	2..		24.514	68.5	24.454
3.		25.955	65.5	25.880	3..		25.948	63.5	25.878	3..		25.940	62	25.873	3..		25.940	61.5	25.875
4.		27.161	68	27.076	4..		27.162	67.5	27.078	4..		27.161	68	27.076	4..		27.162	69.5	27.073
Station 1.	9 6	23.873	71	23.787	Station 1..	9 21	23.880	75.5	23.784	Station 1..	9 36	23.881	76	23.784	Station 1..	9 51	23.881	76	23.784
2.		24.509	66	24.455	2..		24.512	63	24.454	2..		24.513	68.5	24.453	2..		24.514	68.5	24.454
3.		25.955	65.5	25.880	3..		25.948	63.5	25.878	3..		25.941	62	25.874	3..		25.940	61.5	25.875
4.		27.161	68	27.076	4..		27.162	67.5	27.078	4..		27.161	68	27.076	4..		27.162	69.5	27.073
Station 1	9 7	23.873	71	23.787	Station 1..	9 22	23.880	75.5	23.784	Station 1..	9 37	23.881	76	23.784	Station 1..	9 52	23.881	76	23.784
2		24.510	66.5	24.455	2..		24.512	63	24.454	2..		24.513	68.5	24.454	2..		24.514	68.5	24.454
3		25.954	64.5	25.881	3..		25.948	63	25.879	3..		25.941	61.5	25.876	3..		25.940	61.5	25.875
4		27.161	68	27.076	4..		27.162	67.5	27.078	4..		27.161	68	27.076	4..		27.162	69.5	27.073
Station 1	9 8	23.873	71	23.787	Station 1..	9 23	23.880	75.5	23.784	Station 1..	9 38	23.881	76	23.784	Station 1..	9 53	23.881	76	23.784
2		24.512	66.5	24.457	2..		24.512	68	24.454	2..		24.513	68.5	24.453	2..		24.514	68.5	24.454
3.		25.954	64.5	25.881	3..		25.949	63.5	25.878	3..		25.941	61.5	25.876	3..		25.940	61.5	25.875
4		27.161	68	27.076	4..		27.162	67.5	27.078	4..		27.161	68.5	27.074	4..		27.163	69	27.075

Station 1	9 9	23.873	71.5	23.786	Station 1..	9 24	23.880	75.5	23.784	Station 1..	9 39	23.881	76	23.784	Station 1..	9 54	28.882	76	23.785
2		24.512	66.5	24.457	2..		24.512	68	24.454	2..		24.513	68.5	24.453	2..		24.514	68.5	24.454
3.		25.954	64.5	25.881	3..		25.948	63	25.879	3..		25.940	61	25.876	3..		25.940	61.5	25.875
4		27.162	68	27.077	4..		27.162	67.5	27.078	4..		27.160	68.5	27.073	4..		27.163	69	27.075
Station 1	9 10	23.873	72	23.785	Station 1..	9 25	23.880	75.5	23.784	Station 1..	9 40	23.881	76	23.784	Station 1..	9 55	23.882	76	23.785
2		24.512	67	24.456	2..		24.512	68	24.454	2..		24.513	68.5	24.453	2..		24.514	68.5	24.454
3		25.953	64	25.882	3..		25.948	63	25.879	3..		25.940	61	25.876	3..		25.940	61.5	25.875
4		27.162	68	27.077	4.		27.162	67.5	27.078	4..		27.160	68.5	27.073	4..		27.163	69	27.075
Station 1	9 11	23.873	72	23.785	Station 1..	9 26	23.880	75.5	23.784	Station 1..	9 41	23.881	76	23.784	Station 1..	9 56	23.880	75	23.785
2		24.512	67	24.456	2..		24.512	68	24.454	2..		24.513	68.5	24.453	2..		24.514	68.5	24.454
3		25.953	64	25.882	3..		25.947	63	25.878	3..		25.941	61	25.877	3..		25.940	61.5	25.875
4		27.162	68	27.077	4..		27.160	67.5	27.076	4..		27.161	69	27.073	4..		27.163	69	27.075
Station 1.	9 12	23.874	72.5	23.785	Station 1..	9 27	23.881	75.5	23.785	Station 1..	9 42	23.881	76	23.784	Station 1..	9 57	23.879	74.5	23.784
2		24.512	67	24.456	2..		24.512	68	24.454	2..		24.513	68.5	24.453	2..		24.514	68.5	24.454
3		25.953	64	25.882	3..		25.945	63	25.876	3..		25.940	61	25.876	3..		25.939	61.5	25.874
4		27.162	67.5	27.078	4..		27.160	67.5	27.076	4..		27.161	69	27.073	4..		27.163	69	27.075
Station 1.	9 13	23.874	73	23.784	Station 1..	9 28	23.881	75.5	23.785	Station 1..	9 43	23.881	76	23.784	Station 1..	9 58	23.878	74	23.786
2.		24.512	67	24.456	2..		24.512	68.5	24.452	2..		24.513	68.5	24.453	2..		24.514	68.5	24.454
3		25.953	63.5	25.833	3..		25.945	62.5	25.877	3..		25.940	61.5	25.875	3..		25.940	61.5	25.875
4		27.162	67.5	27.078	4..		27.160	67.5	27.076	4..		27.162	69.5	27.073	4..		27.163	69	27.075
Station 1.	9 14	23.874	74	23.782	Station 1..	9 29	23.881	75.5	23.785	Station 1..	9 44	23.881	76	23.784	Station 1..	9 59	23.878	74	23.786
2		24.512	67	24.456	2..		24.513	68.5	24.453	2..		24.513	68.5	24.453	2..		24.514	68.5	24.454
3.		25.953	64	25.882	3..		25.943	62.5	25.875	3..		25.940	61.5	25.875	3..		25.940	61.5	25.875
4.		27.162	67.5	27.078	4..		27.161	67.5	27.077	4..		27.162	69.5	27.073	4..		27.165	69	27.077

Station No. 1.—Summit of Mount Washington. Elevation of barometer above sea-level..6,285.4 feet.
Station No. 2.—Above Jacob's Ladder. Elevation of barometer above sea-level............5,553.3 feet.
Station No. 3.—Waumbeck House. Elevation of barometer above sea-level................4,058.7 feet.
Station No. 4.—Base of Mount Washington. Elevation of barometer above sea-level......2,898.3 feet.

NOTE.—Barometer-readings corrected for temperature and instrumental error only.

Meteorological record for June 29, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					p. m.					. m.					p. m.			
Station 1.	9 0	23.930	62	23.863	Station 1..	9 15	23.926	62.5	23.858	Station 1..	9 30	23.924	62	23.857	Station 1..	9 45	23.922	62	23.855
2.		24.583	71	24.518	2..		24.584	72	24.517	2..		24.585	70.5	24.521	2..		24.581	69.5	24.519
3.		26.003	68	25.922	3..		26.004	66.5	25.927	3..		26.000	66.5	25.923	3..		26.000	66	25.924
4.					4..					4..		27.221	76	27.107	4..				
Station 1.	9 1	23.929	62	23.862	Station 1..	9 16	23.926	62.5	23.858	Station 1..	9 31	23.924	62	23.857	Station 1..	9 46	23.922	62	23.855
2.		24.582	71	24.517	2..		24.584	72	24.517	2..		24, 584	70.5	24.520	2..		24.581	69.5	24.519
3.		26.002	68	25.921	3..		26.003	66.5	25.926	3..		26.000	66, 5	25.923	3..		26.000	66	25.924
4.					4..					4..		27.221	76	27.107	4..				
Station 1.	9 2	23.928	62	23.861	Station 1..	9 17	23.926	62.5	23.858	Station 1..	9 32	23.924	62	23.857	Station 1..	9 47	23.920	62	23.853
2.		24.584	71	24.519	2..		24.585	72	24.518	2..		24.583	70.5	24.519	2..		24.579	69.5	24.517
3.		26.002	67.5	25.923	3..		26.003	66.5	25.926	3..		26.000	66.5	25.923	3..		26.000	66	25.924
4					4..					4..		27.221	76	27.107	4..				
Station 1.	9 3	23.927	62	23.860	Station 1..	9 18	23.926	62.5	23.858	Station 1..	9 33	23.924	62	23.857	Station 1..	9 48	23.920	62	23.853
2.		24.584	71.5	24.518	2..		24.583	72	24.516	2..		24.580	70.5	24.516	2..		24.579	69.5	24.517
3.		26.002	67.5	25.923	3..		26.002	66.5	25.925	3..		26.000	66.5	25.923	3..		26.000	66.5	25.923
4.					4..					4..		27.222	76	27.108	4..				
Station 1.	9 4	23.928	62	23.861	Station 1..	9 19	23.926	62.5	23.858	Station 1..	9 34	23.924	62	23.857	Station 1..	9 49	23.920	62	23.853
2.		24.584	72	24.517	2..		24.580	72	24.513	2..		24.581	70.5	24.517	2..		24.570	69.5	24.508
3.		26.003	67.5	25.924	3..		26.000	66.5	25.923	3..		26.000	66.5	25.923	3..		26.000	66.5	25.923
4.					4..					4..		27.222	76	27.108	4..				
Station 1.	9 5	23.928	62	23.861	Station 1..	9 20	23.925	62.5	23.858	Station 1..	9 35	23.925	62	23.858	Station 1..	9 50	23.920	62	28.853
2.		24.584	72	24.517	2..		24.584	72	24.517	2..		24.584	70.5	24.520	2..		24.575	69	24.514
3.		26.005	67.5	25.926	3..		26.000	66.5	25.923	3..		26.000	66.5	25.923	3..		26.000	66.5	25.923
4.					4..					4..		27.222	76	27.108	4..				
Station 1.	9 6	23.928	62	23.861	Station 1..	9 21	23.925	62.5	23.858	Station 1..	9 36	23.924	62	23.857	Station 1..	9 51	23.920	62	23.853
2.		24.584	72	24.517	2..		24.582	71.5	24.516	2..		24.582	70	21.519	2..		24.577	69	24.516
3.		26.005	67	25.927	3..		26.000	66.5	25.923	3..		26.000	66.5	25.923	3..		26.000	66	25.924
4.					4..					4..		27.230	76.5	27.115	4..				
Station 1.	9 7	23.927	62	23.860	Station 1..	9 22	23.925	62.5	23.858	Station 1..	9 37	23.924	62	23.857	Station 1..	9 52	23.918	62	23.851
2		24.584	72	24.517	2..		24.584	71	24.519	2..		24.584	70	24.521	2..		24.575	69	24.514
3.		26.005	67	25.927	3..		26.000	66.5	25.923	3..		26.000	66.5	25.923	3..		26.000	66	25.924
4.					4..					4..		27.230	76.5	27.115	4..				
Station 1.	9 8	23.927	62.5	23.859	Station 1..	9 23	23.925	62.5	23.858	Station 1..	9 38	23.924	62	23.857	Station 1..	9 53	23.918	61.5	23.852
2.		24.584	72	24.517	2..		24.580	71	24.515	2..		24.583	70	24.520	2..		24.573	68.5	24.513
3.		26.005	67	25.927	3..		26.000	66.5	25.923	3..		26.000	66.5	25.923	3..		26.000	66	25.924
4.					4..					4..		27.230	76.5	27.115	4..				

Station 1.	9 9	23.927	62.5	23.859	Station 1..	9 24	23.925	62.5	23.857	Station 1..	9 39	23.922	62	23.855	Station 1..	9 54	23.918	61.5	23.852
2		24.584	72	24.517	2..		24.581	71	24.516	2..		24.584	70	24.521	2..		24.575	68.5	24.515
3.		26.003	67	25.925	3..		26.000	66.5	25.923	3..		26.000	66.5	25.923	3..		26.000	66.5	25.923
4		....	......	....	4..		....	......	....	4..		....	......	....	4..		....	......	....
Station 1.	9 10	23.927	62.5	23.859	Station 1..	9 25	23.925	62.5	23.857	Station 1..	9 40	23.923	62	23.856	Station 1..	9 55	23.918	61.5	23.852
2.		24.584	72	24.517	2..		24.581	70.5	24.517	2..		24.582	70	24.519	2..		24.571	68	24.513
3.		26.005	67	25.927	3..		26.000	66.5	25.923	3..		26.000	66.5	25.923	3..		26.000	66.5	25.923
4.		....	......	....	4..		....	......	....	4..		....	......	....	4..		....	......	....
Station 1.	9 11	23.924	62.5	23.856	Station 1..	9 26	23.925	62.5	23.857	Station 1..	9 41	23.923	62	23.856	Station 1..	9 56	23.918	61.5	23.852
2.		24.582	72	24.515	2..		24.582	70.5	24.518	2..		24.582	70	24.519	2..		24.574	68	24.516
3		26.005	67	25.927	3..		26.000	66.5	25.923	3..		26.000	66.5	25.923	3..		26.000	66.5	25.923
4.		....	......	....	4..		....	......	....	4..		....	......	....	4..		....	......	....
Station 1.	9 12	23.924	62.5	23.856	Station 1..	9 27	23.925	62	23.858	Station 1..	6 42	23.923	62	23.856	Station 1..	9 57	23.918	61.5	23.852
2.		24.580	72	24.513	2..		24.582	70.5	24.518	2..		24.582	70	24.519	2..		24.570	68	24.512
3.		26.005	67	25.927	3..		26.000	66.5	25.923	3..		26.001	66	25.925	3..		26.000	66	25.924
4.		....	......	....	4..		....	......	....	4..		....	......	....	4..		....	......	....
Station 1.	9 13	23.926	62.5	23.858	Station 1..	9 28	23.924	62	23.857	Station 1..	9 43	23.923	62	23.856	Station 1..	9 58	23.918	61.5	23.852
2.		24.584	72	24.517	2..		24.581	70.5	24.517	2..		24.580	69.5	24.518	2..		24.571	68	24.513
3.		26.005	67	25.927	3..		26.000	66.5	25.923	3..		26.001	66	25.925	3..		26.000	66	25.924
4.		....	......	....	4..		....	......	....	4..		....	......	....	4..		....	......	....
Station 1.	9 14	23.926	62.5	23.858	Station 1..	9 29	23.924	62	23.857	Station 1..	9 44	23.923	62	23.856	Station 1..	9 59	23.918	61.5	23.852
2.		24.584	72	24.517	2..		24.581	70.5	24.517	2..		24.579	69.5	24.517	2..		24.571	68	24.513
3.		26.005	67	25.927	3..		26.000	66.5	25.923	3..		26.000	66	25.924	3..		26.000	66	25.924
4.		....	......	....	4..		....	......	....	4..		....	......	....	4..		....	......	....

Station No. 1.—Summit of Mount Washington. Elevation of barometer above sea-level.. 6,285.4 feet.
Station No. 2.—Above Jacob's Ladder. Eelevation of barometer above sea-level .... 5,553.3 feet.
Station No. 3.—Waumbeck House. Elevation of barometer above sea-level .... 4,058.7 feet.
Station No. 4.—Base of Mount Washington. Elevation of barometer above sea-level...... 2,898.3 feet.

NOTE.—Barometer readings corrected for temperature and instrumental error only.

*Owing to repairs being made in the telegraph-office no observation could be taken at this station.

Meteorological record for June 30, 1873.

(Minute barometrical observations.)

Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.	Place of observation.	Time of observation.	Barometer.	Attached thermometer.	Corrected barometer.
	p. m.					*p. m.*					*p. m.*					*p. m.*			
Station 1.	9 0	23.952	69	23.870	Station 1..	9 15	23.953	70	23.869	Station 1..	9 30	23.952	70	23.868	Station 1..	9 45	23.958	70	23.874
2.		24.596	66.5	24.541	2..		24.607	68	24.549	2..		24.597	68	24.539	2..		24.600	66.5	24.545
3.		26.058	66.5	25.981	3..		26.067	65	25.993	3..		26.060	64.5	25.987	3..		26.060	64.5	25.987
4.		27.295	71	27.201	4..		27.302	72.5	27.204	4..		27.303	72.5	27.205	4..		27.302	72.5	27.204
Station 1.	9 1	23.952	69	23.870	Station 1..	9 16	23.953	70	23.869	Station 1..	9 31	23.958	70	23.874	Station 1..	9 46	23.958	70	23.874
2		24.593	66.5	24.538	2..		24.610	68.5	24.551	2..		24.595	67.5	24.538	2..		24.602	66.5	24.547
3		26.000	66.5	25.983	3..		26.068	65	25.994	3..		26.060	64.5	25.987	3..		26.059	64.5	25.986
4		27.295	71	27.201	4..		27.302	72.5	27.204	4..		27.303	72.5	27.205	4..		27.302	72.5	27.204
Station 1.	9 2	23.952	69	23.870	Station 1..	9 17	23.952	70	23.868	Station 1..	9 32	23.960	70	23.876	Station 1..	9 47	23.958	70	23.874
2.		24.595	67	24.539	2..		24.602	68.5	24.543	2..		24.607	67.5	24.550	2..		24.602	66.5	24.547
3.		26.061	66.5	25.984	3..		26.067	65	25.993	3..		26.060	64.5	23.987	3..		26.059	64.5	25.986
4.		27.295	71	27.201	4..		27.302	72.5	27.204	4..		27.205	72.5	27.207	4..		27.301	72.5	27.203
Station 1.	9 3	23.952	69	23.870	Station 1..	9 18	23.952	70	23.868	Station 1..	9 33	23.960	70	23.876	Station 1..	9 48	23.958	70	23.874
2.		24.595	67	24.539	2..		24.600	68.5	24.541	2..		24.602	67.5	24.545	2..		24.600	66.5	24.545
3.		26.062	66.5	25.983	3..		26.065	65	25.991	3..		26.060	64.5	25.987	3..		26.060	64.5	25.987
4.		27.295	71	27.201	4..		27.302	72.5	27.204	4..		27.303	72.5	27.305	4..		27.302	72.5	27.204
Station 1.	9 4	23.952	69	24.870	Station 1..	9 19	23.952	70	23.868	Station 1..	9 34	23.962	70	23.878	Station 1..	9 49	23.958	70	23.874
2.		24.603	67	24.547	2..		24.600	68.5	24.541	2..		24.600	67.5	24.543	2..		24.600	66.5	24.545
3.		26.062	66	25.986	3..		26.065	65	25.991	3..		26.060	64.5	25.987	3..		26.060	64.5	25.987
4.		27.295	71	27.201	4..		27.302	72.5	27.204	4..		27.302	72.5	27.204	4..		27.302	72.5	27.204
Station 1.	9 5	23.952	69	23.870	Station 1..	9 20	23.952	70	23.868	Station 1..	9 35	23.962	70	23.878	Station 1..	9 50	23.958	70	23.874
2.		24.604	67	24.546	2..		24.607	68.5	24.548	2..		24.600	67	24.544	2..		24.603	66	24.549
3.		26.063	66	25.987	3..		26.065	65	25.991	3..		26.060	64.5	25.987	3..		26.060	64.5	25.987
4.		27.295	71	27.201	4..		27.302	72.5	27.204	4..		27.302	72.5	27.204	4..		27.302	72.5	27.204
Station 1	9 6	23.952	69	23.870	Station 1..	9 21	23.952	70	23.868	Station 1..	9 36	23.961	70	23.877	Station 1..	9 51	23.954	70	23.870
2		24.600	67.5	24.544	2..		24.607	68.5	24.548	1..		24.600	67	24.544	2..		24.605	66	24.551
3.		26.063	66	25.987	3..		26.064	65	25.090	3..		26.060	64.5	25.987	3..		26.060	64.5	25.987
4.		27.298	71	27.204	4..		27.301	72.5	27.203	4..		27.303	72.5	27.205	4..		27.303	72.5	27.205
Station 1.	9 7	23.952	69	23.870	Station 1..	9 22	23.952	70	23.868	Station 1..	9 37	23.961	70	23.877	Station 1..	9 52	23.956	70	23.872
2.		24.602	67.5	24.546	2..		24.605	68.5	24.546	2..		24.600	67	24.544	2..		24.605	66	24.551
3.		26.064	65.5	25.989	3..		26.063	65	25.989	3..		26.058	64.5	25.985	3..		26.060	64.5	25.987
4.		27.298	71	27.204	4..		27.302	72.5	27.204	4..		27.302	72.5	27.204	4..		27.301	72.5	27.203
Station 1.	9 8	23.952	69	23.870	Station 1..	9 23	23.953	70	23.869	Station 1..	9 38	23.961	70	23.877	Station 1..	9 53	23.956	70	23.872
2.		24.601	67.5	24.545	2..		24.605	68.5	24.546	2..		24.608	67	24.552	2..		24.607	66	24.553
3.		26.064	65.5	25.989	3..		26.063	65	25.989	3..		26.058	64.5	25.985	3..		26.060	64.5	25.987
4.		27.298	71	27.204	4..		27.303	72.5	27.205	4..		27.303	72.5	27.205	4..		27.301	72.5	27.203

Station 1	9 9	23.952	69	23.870	Station 1..	9 24	23.953	70	23.869	Station 1..	9 39	23.958	70.	23.874	Station 1..	9 54	23.957	70	23.873
2.		24.603	67.5	24.547	2..		24.607	68	24.549	2..		24.600	66.5	24.545	2..		24.602	66	24.548
3.		26.064	65.5	25.989	3..		26.063	65	25.989	3..		26.058	64.5	25.985	3..		26.060	64.5	25.987
4		27.301	71	27.207	4..		27.302	72.5	27.204	4..		27.303	72.5	27.205	4..		27.301	72.5	27.203
Station 1	9 10	23.952	69	23.870	Station 1..	9 25	23.953	70	23.869	Station 1..	9 40	23.960	70	23.876	Station 1..	9 55	23.958	70	23.874
2.		24.600	68	24.542	2..		24.602	68	24.544	2..		24.603	66.5	24.548	2..		24.600	66	24.546
3		26.064	65.5	25.989	3..		26.061	64.5	25.988	3..		26.058	64.5	25.985	3..		26.060	64.5	25.987
4		27.301	71.5	27.205	4..		27.303	72.5	27.205	4..		27.303	72.5	27.205	4..		27.302	72.5	27.204
Station 1	9 11	23.952	69	23.870	Station 1..	9 26	23.953	70	23.869	Station 1..	9 41	23.960	70	23.876	Station 1..	9 56	23.958	70	23.871
2		24.603	68	24.545	2..		24.605	68	24.547	2..		24.595	66.5	24.540	2..		24.602	66	24.548
3		26.066	65.5	25.991	3..		26.061	64.5	25.988	3..		26.060	64.5	25.987	3..		26.060	64	25.989
4		27.299	71.5	27.203	4..		27.305	72.5	27.207	4..		27.305	72.5	27.207	4..		27.303	72.5	27.205
Station 1	9 12	23.952	69.5	23.869	Station 1..	9 27	23.952	70	23.868	Station 1..	9 42	23.960	70	23.876	Station 1..	9 57	23.958	70	23.874
2		24.607	68	24.549	2..		24.603	68	24.545	2..		24.603	66.5	21.548	2..		24.603	66	24.549
3		26.066	65.5	25.991	3..		26.060	64.5	25.987	3..		26.060	64.5	25.987	3..		26.060	64	25.989
4		27.302	72	27.205	4..		27.305	72.5	27.207	4..		27.303	72.5	27.205	4..		27.302	72.5	27.204
Station 1.	9 13	23.953	70	23.869	Station 1..	9 28	23.952	70	23.868	Station 1..	9 43	23.960	70	23.876	Station 1..	9 58	23.958	70	23.874
2.		24.605	68	24.547	2..		24.603	68	24.545	2..		24.603	66.5	24.548	2..		24.602	66	24.548
3.		26.066	65	25.992	3..		26.060	64.5	25.987	3..		26.060	64.5	25.987	3..		26.060	64	25.989
4.		27.302	72	27.205	4..		27.305	72.5	27.207	4..		27.303	72.5	27.205	4..		27.300	72.5	27.202
Station 1.	9 14	23.953	70	23.869	Station 1..	9 29	23.952	70	23.868	Station 1..	9 44	23.960	70	23.876	Station 1..	9 59	23.955	70	23.871
2		24.605	68	24.547	2..		24.603	68	24.545	2..		24.600	66.5	24.545	2..		24.595	66	24.541
3		26.066	65	25.992	3..		26.060	64.5	25.987	3..		26.060	64.5	25.987	3..		26.060	64	25.989
4		27.302	72.5	27.204	4..		27.303	72.5	27.205	4..		27.302	72.5	27.204	4..		27.302	72.5	27.204

Station No. 1.—Summit of Mount Washington. Elevation of barometer above sea-level ... 6,285.4 feet.
Station No. 2.—Above Jacob's Ladder. Elevation of barometer above sea-level .... 5,553.3 feet.
Station No. 3.—Waumbeck House. Elevation of barometer above sea-level .... 4,058.7 feet.
Station No. 4.—Base of Mount Washington. Elevation of barometer above sea-level....... 2,898.3 feet.

NOTE.—Barometer-readings corrected for temperature and instrumental error only.

K.—*Meteorological record for May* 1, 1873.

(Hourly observation.)

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer-readings corrected for temperature and instrumental error only.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'd.	Ended.		
Summit	1 0 a. m.	23.842	51	24	23.799	24	23	87	N. W.	42	8.82	....	0	0	0	0	0	....	....	....	Clear.
Base ...		27.360	54	36	27.287	36	33	71	E.	2	.02	....	Stratus ...	1-4	0	0	0	....	....	....	Clear.
Summit	2 0 a. m.	23.831	51	24	23.788	24	23	87	N. W.	37	6.84	....	0	0	0	0	0	....	....	....	Clear.
Base ...		27.350	53	33	27.280	33	31	80	E.	2	.02	....	0	0	0	0	0	....	....	....	Clear.
Summit	3 0 a. m.	23.835	51	23	23.792	23	22	86	N. W.	34	5.78	....	0	0	0	0	0	....	....	....	Clear.
Base ...		27.345	51	32	27.280	32	30	79	E.	2	.02	....	0	0	0	0	0	....	....	....	Clear.
Summit	4 0 a. m.	23.843	55	22	23.791	22	21	85	N. W.	30	4.50	....	0	0	0	0	0	....	....	....	Clear.
Base ...		27.342	49	31	27.282	31	29	79	E.	2	.02	....	0	0	0	0	0	....	....	....	Clear.
Summit	5 0 a. m.	23.840	54	22	23.790	22	21	85	N. W.	26	3.38	....	0	0	0	0	0	....	....	....	Clear.
Base ...		27.340	45	30	27.289	30	28	78	E.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	6 0 a. m.	23.849	50	22	29.808	22	21	85	N. W.	26	3.38	....	0	0	0	0	0	....	....	....	Clear.
Base ..		27.360	47	30	27.304	30	28	78	E.	2	.02	....	0	0	0	0	0	....	....	....	Clear.
Summit	7 0 a. m.	23.880	52	23	23.835	23	22	86	N. W.	20	2.00	....	0	0	0	0	0	....	....	....	Clear.
Base ...		27.380	45	34	27.320	34	31	71	E.	2	.02	....	0	0	0	0	0	....	....	....	Clear.
Summit	7 57 a. m.	23.885	52	24	23.840	24	23	87	N. W.	15	1.12	....	0	0	0	0	0	....	....	....	Clear.
Base ...		27.380	46	40	27.327	40	34	48	S. W.	2	.02	....	0	0	0	0	0	....	....	....	Clear.
Summit	9 0 a. m.	23.870	58	24	23.812	24	21	61	N. W.	24	2.88	....	0	0	0	0	0	....	....	....	Clear.
Base ...		27.394	52	43	27.326	44	36	37	S.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	10 0 a. m.	23.868	55	25	23.816	25	23	75	N. W.	22	2.42	....	0	0	Cumulus ..	1-4	N. W. S.	....	....	....	Fair.
Base ...		27.371	51	45	27.306	46	37	33	S. W.	12	.72	...	0	0	Cumulus ..	1-8	W.	....	....	....	Clear.
Summit	11 0 a. m.	23.840	55	25	23.788	25	23	75	W.	30	4.50	....	0	0	Cumulus ..	1-4	W. S.	....	....	....	Fair.
Base ..		27.359	53	48	27.289	48	39	36	W.	10	.50	....	0	0	Cumulus ..	1-4	W.	....	....	....	Fair.
Summit	12 0 m ..	23.840	55	25	23.788	25	23	75	W.	28	3.92	....	0	0	Cumulus ..	2-4	W.	....	....	....	Fair.
Base ...		27.346	55	48	27.271	48	39	36	S. W.	10	.50	....	0	0	Cumulus ..	1-4	W.	....	....	....	Fair.
Summit	1 0 p. m.	23.830	53	25	23.782	25	24	75	W.	36	6.48	....	0	0	Cumulus ..	1-4	W.	....	....	....	Fair.
Base ...		27.348	58	51	27.265	51	41	34	W.	8	.32	....	0	0	Cumulus ..	2-4	W.	....	....	....	Fair.
Summit	2 0 p. m.	23.840	52	24	23.795	24	22	74	W.	43	9.24	....	0	0	Cumulus ..	2-4	W.	....	....	....	Fair.
Base ...		27.343	62	53	27.251	53	42	31	N. W.	12	.72	....	Cumulus ..	1-4	Cirrus	1-4	Calm..	....	....	....	Fair.
Summit	3 0 p. m.	23.758	51	24	23.742	24	22	74	W.	48	11.52	....	0	0	Cumulus ..	2-4	W.	....	....	....	Fair.
Base ...		27.336	69	53	27.226	53	44	42	N. W.	14	.98	....	0	0	Cumulus ..	2-4	N. W.	....	....	....	Fair.
Summit	4 0 p. m.	23.800	54	24	23.750	24	22	74	W.	50	12.50	....	0	0	Cumulus ..	2-4	W.	....	....	....	Fair.
Base ...		27.334	71	52	27.220	52	43	41	N. W.	8	.32	...	0	0	Cumulus ..	3-4	N. W.	....	....	....	Cloudy.
Summit	4 57 p. m.	23.810	55	24	23.758	24	22	74	W.	46	10.58	....	0	0	Cumulus ..	2-4	W.	....	....	....	Fair.
Base ...		27.312	67	50	27.207	50	42	45	W.	8	.32	....	0	0	Cumulus ..	3-4	W.	....	....	....	Fair.
Summit	6 0 p. m.	23.810	54	24	23.760	24	22	74	W.	41	8.40	....	0	0	Cumulus ..	2-4	W.	....	....	....	Fair.
Base ...		27.310	63	50	27.215	50	41	39	W.	4	.08	....	Stratus ...	1-4	Cirrus	2-4	W.	....	....	....	Fair.

Summit	7 0 p.m.	23.825	58	23	23.767	23	21	73	W.	52	13.52	....	Stratus ...	1-4	0	0	0	....	....	....	Fair.
Base ...		27.307	61	44	27.217	44	37	45	S. W.	4	.08	....	Stratus ...	1-4	Cirrus	1-4	W.	....	....	....	Fair.
Summit	8 0 p.m.	23.800	57	23	23.744	23	21	73	W.	24	2.88	....	Stratus ...	1-4	0	0	0	....	....	....	Fair.
Base ...		27.310	61	38	27.220	38	34	63	S. E.	4	.08	....	Stratus ...	1-4	Cirrus	1-4	Calm..	....	....	....	Fair.
Summit	9 0 p.m.	23.810	55	24	23.758	24	22	74	W.	18	1.62	....	Stratus ...	1-4	0	0	0	....	....	....	Fair.
Base ...		27.300	60	37	27.213	37	34	73	S. E.	2	.02	....	0	0	Cirrus	1-4	Calm..	....	....	....	Clear.
Summit	10 0 p.m.	23.800	55	24	23.748	24	22	74	W.	20	2.00	....	Stratus ...	1-4	0	0	0	....	....	....	Fair.
Base ...		27.300	57	37	27.220	37	34	73	S. E.	4	.08	....	0	0	Cirrus	2-4	Calm..	....	....	....	Fair.
Summit	11 22 p.m.	23.800	54	24	23.750	24	22	74	W.	28	3.92	....	Stratus ...	1-4	0	0	0	....	....	....	Fair.
Base ...		27.280	55	36	27.205	36	33	71	S. E.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	12 mid-night.	23.807	52	24	23.762	24	22	74	W.	26	3.38	....	Stratus ...	1-4	0	0	0	....	....	....	Fair.
Base ...		27.278	55	36	27.203	36	33	71	S. E.	4	.08	....	Stratus ...	1-4	0	0	0	....	....	....	Clear.

Meteorological record for May 2, 1873.

Summit	1 00 a. m.	23.812	53	25	23.764	25	24	87	W.	24	2.88	....	Stratus ...	2-4	Cirro-strat.	1-4	W.	....	....	....	Fair.
Base ...		27.258	54	35	27.185	35	32	70	S. E.	4	.08	....	Stratus ...	1-4	0	0	0	....	....	....	Clear.
Summit	2 00 a. m.	23.810	55	24	23.758	24	23	87	W.	23	2.64	....	Stratus ...	2-4	Cirro-strat.	1-4	W.	....	....	....	Fair.
Base ...		27.258	53	35	27.188	35	32	70	E.	4	.08	....	Stratus ...	1-4	0	0	0	....	....	....	Clear.
Summit	3 0 a. m.	23.800	56	24	23.746	24	23	87	W.	20	2.00	....	Stratus ...	1-4	Cirro-cum.	3-4	W.	....	....	....	Fair.
Base ...		27.250	53	35	27.180	35	32	70	E.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	4 0 a. m.	23.802	57	24	23.746	24	23	87	W.	30	4.50	....	Stratus ...	1-4	Cirro-cum.	1-4	W.	....	....	....	Fair.
Base		27.242	52	35	27.175	35	32	70	E.	2	.02	....	0	0	Cirrus	2-4	W.	....	....	....	Fair.
Summit	5 0 a. m.	23.800	55	24	23.748	24	23	87	W.	24	2.88	....	Hazy	....	Cirro-cum.	1-4	W.	....	....	....	Fair.
Base ...		27.242	52	35	27.175	35	32	70	E.	4	.08	....	Stratus ...	1-4	Cirrus	2-4	W.	....	....	....	Cloudy.
Summit	6 0 a. m.	23.805	54	25	23.755	25	24	87	W.	25	3.12	....	Hazy	....	Cirro-cum.	1-4	W.	....	....	....	Fair.
Base ...		27.245	53	37	27.176	37	34	71	E.	4	.08	....	0	0	Cirrus	3-4	W.	....	....	....	Cloudy.
Summit	7 0 a. m.	23.805	56	27	23.751	27	25	77	W.	12	.72	....	Hazy	...	Cirro-cum.	1-4	W.	....	....	....	Fair.
Base ...		27.243	52	39	27.176	39	36	73	Calm.	0	.00	....	0	0	Cirrus	2-4	W.	....	....	....	Fair.
Summit	7 57 a. m.	23.810	57	28	23.754	28	26	77	W.	10	.50	....	Hazy	....	Stratus....	4-4	W.	....	....	....	Fair.
Base ...		27.242	57	44	27.161	44	39	60	N. W.	0	.00	....	0	0	Cirrus	2-4	W.	....	....	....	Fair.
Summit	9 0 a. m.	23.835	68	30	23.755	30	27	68	W.	15	1.12	....	Hazy	....	Stratus....	4-4	W.	....	....	....	Fair.
Base ..		27.252	60	44	27.166	44	38	52	N. W.	2	.02	....	0	0	Cirrus	2-4	W.	....	....	....	Fair.
Summit	10 0 a. m.	23.825	62	38	23.758	32	30	79	W.	12	.72	....	Hazy	....	Stratus....	4-4	W.	....	....	....	Fair.
Base ...		27.238	59	49	27.154	49	41	44	S. W.	2	.02	....	0	0	Cirro-strat.	3-4	W.	....	....	....	Cloudy.
Summit	11 0 a. m.	23.790	61	32	23.725	32	30	79	W.	7	.24	....	Hazy	....	Stratus....	4-4	W.	....	....	....	Fair.
Base ...		27.220	62	48	27.129	48	39	36	S. E.	8	.32	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Summit	12 0 m...	23.780	65	32	23.707	32	30	79	W.	10	.50	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Base ...		27.211	61	47	27.123	46	38	40	N. W.	6	.18	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Summit	1 0 p. m.	23.775	68	31	23.695	31	30	89	W.	6	.18	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light snow.
Base ...		27.187	60	46	27.101	46	38	40	N. W.	1	.01	....	Stratus ...	4-4	Hidden ...	....	....	2.45 p. m.	....	....	Cloudy.
Summit	2 0 p. m.	23.758	63	31	23.689	31	30	89	S.	7	.24	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light snow.
Base ...		27.179	59	46	27.096	46	38	40	N. W.	2	.02	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Summit	3 0 p. m.	23.730	66	30	23.656	30	29	89	S.	12	.72	....	Nimbus...	4-4	Hidden ...	....	....	2.45 p. m.	....	....	Light snow.
Base ...		27.150	57	40	27.071	40	36	65	S. E.	8	.32	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Light snow.
Summit	4 0 p. m.	23.715	70	29	23.633	29	28	89	S.	6	.18	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light snow.
Base ..		27.142	54	38	27.070	38	35	72	W.	4	.08	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light snow.

Meteorological record for May 2, 1873—Continued.

(Hourly observation.)

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer-readings corrected for temperature and instrumental error only.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		
Summit	4 57 p. m.	23. 688	67	29	23. 612	29	28	89	S.	14	. 98		Nimbus	4-4	Hidden					. 05	Light snow.
Base		27. 120	53	35	27. 051	35	34	85	S. W.	1	. 01		Nimbus	4-4	Hidden						Light snow.
Summit	6 0 p. m.	23. 675	64	29	23. 605	29	28	89	S.	17	1. 44		Nimbus	4-4	Hidden						Light snow.
Base		27. 110	52	33	27. 043	33	32. 5	95	S. W.	1	. 01		Nimbus	4-4	Hidden				6.57 p. m.		Light snow.
Summit	7 0 p. m.	23. 660	64	28	23. 590	28	27	88	S.	24	3. 92		Nimbus	4-4	Hidden						Light snow.
Base		27. 080	50	33	27. 018	33	32	95	S. W.	1	. 01		Nimbus	4-4	Hidden			7.00 p. m.			Light rain.
Summit	8 0 p. m.	23. 650	67	27	23. 574	27	26	88	S.	26	3. 38		Nimbus	4-4	Hidden						Light snow.
Base		27. 067	51	33	27. 003	33	32	94. 5	W.	1	. 01		Nimbus	4-4	Hidden						Light rain.
Summit	9 0 p. m.	23. 650	68	27	23. 572	27	26	88	S.	34	5. 78		Nimbus	4-4	Hidden						Light snow.
Base		27. 050	50	33	26. 988	33	32	94. 5	S. E.	1	, 01		Nimbus	4-4	Hidden				9.50 p. m.		Light rain.
Summit	10 0 p. m.	23. 615	65	27	23. 543	27	26	88	S.	36	6. 48		Nimbus	4-4	Hidden						Light snow.
Base		27. 023	50	33	26. 961	33	32	94. 5	S. W.	1	. 01		Nimbus	4-4	Hidden			9.50 p. m.	11.00 p. m.		Sleeting.
Summit	11 22 p. m.	23. 590	70	25	23. 508	25	24	88	S.	42	8 82		Nimbus	4-4	Hidden						Light snow.
Base		26. 980	48	33	26. 932	33	32	94. 5	S. E.	1	. 01		Nimbus	4-4	Hidden					. 49	Cloudy.
Summit	12 0 mid-night.	23. 600	73	25	23. 512	25	24	88	S.	36	6. 48		Nimbus	4-4	Hidden						Light snow.
Base		26. 970	48	33	26. 913	33	32	94. 5	S. E.	1	. 01		Nimbus	4-4	Hidden						Cloudy.

Meteorological record for May 3, 1873.

Place of observation.	Time of observation.	Barometer.	Attached.	Exposed.	Corrected barometer.	Dry bulb.	Wet bulb.	Relative humidity.	Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.	Amount of rain or melted snow.	Remarks.
Summit	1 0 a. m.	23. 560	65	25	23. 488	25	24	88	S.	36	6. 48		Nimbus	4-4	Hidden						Light snow.
Base		26. 945	51	33	26. 881	33	32	95	Calm.	0	. 00		Stratus	4-4	Hidden						Cloudy.
Summit	2 0 a. m.	23. 539	66	25	23. 465	25	24	84	S. E.	40	8. 00		Stratus	4-4	Hidden				1.25 a. m.	. 63	Threatening.
Base		26. 917	50	32	26. 855	32	31	90	S. E.	1	. 01		Stratus	4-4	Hidden						Cloudy.
Summit	3 0 a. m.	23. 530	68	25	23. 452	25	24	88	E.	37	6. 84		Stratus	4-4	Hidden						Threatening.
Base		26. 915	49	32	26. 855	32	31	90	S. E.	1	. 01		Stratus	4-4	Hidden						Threatening.
Summit	4 0 a. m.	23. 500	62	24	23. 435	24	23	87	S. E.	42	8. 82		Stratus	4-4	Hidden						Threatening.
Base		26. 900	48	32	26. 845	32	31	95	S. W.	1	. 01		Nimbus	4-4	Hidden			3.45 a. m.			Light snow.
Summit	5 0 a. m.	23. 500	62	24	23. 435	24	23	87	E.	35	6. 12		Stratus	4-4	Hidden						Threatening.
Base		26. 900	47	32	26. 845	32	31. 5	95	Calm.	0	. 00		Stratus	4-4	Hidden				4.30 a. m.		Cloudy.
Summit	6 0 a. m.	23. 505	61	24	23. 442	24	23	87	E.	36	6. 48		Stratus	4-4	Hidden						Threatening.
Base		26. 905	47	31. 5	26. 850	31. 5	31	94.	Calm.	0	. 00		Stratus	4-4	Hidden						Cloudy.

Summit	7 0 a. m.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	E.	[illegible]	[illegible]	....	Nimbus...	4-4	Hidden ...	......	....	6.15 a. m.	....	....	Light snow.
Base...		26. 908	48	32	26. 851	32	31	90	W.	1	. 01	....	Stratus ...	4-4	Hidden ...	......	....	....	....	....	Cloudy.
Summit	7 57 a. m.	23. 480	54	24	23. 431	24	23	87	E.	32	5. 12	....	Nimbus...	4-4	Hidden ...	......	....	....	....	. 02	Light snow.
Base...		26. 907	32	32	26. 840	32	31	90	W.	1	. 01	....	Nimbus...	4-4	Hidden ...	......	....	7.40 a. m.	....	....	Light snow.
Summit	9 0 a. m.	23. 480	55	25	23. 429	25	24	88	E.	30	4. 50	....	Nimbus...	4-4	Hidden ...	......	....	....	....	....	Light snow.
Base...		26. 919	53	34	26. 850	34	33	89. 5	W.	4	. 08	....	Nimbus...	4-4	Hidden ...	......	....	....	....	....	Light snow.
Summit	10 0 a. m.	23. 470	55	24	23. 419	24	23	87	E.	31	4. 80	....	Nimbus...	4-4	Hidden ...	......	....	....	....	....	Light snow.
Base...		26. 912	54. 5	36	26. 839	36	34	81. 1	S.	2	. 02	....	Nimbus...	4-4	Hidden ...	......	....	....	....	....	Light snow.
Summit	11 0 a. m.	23. 470	57	24	23. 415	24	23	87	E.	36	6. 48	....	Nimbus...	4-4	Hidden ...	......	....	....	....	....	Light snow.
Base...		26. 916	55	37	26. 842	37	36	90. 3	S.W.	4	. 08	....	Nimbus...	4-4	Hidden ...	......	....	....	....	....	Light snow.
Summit	12 0 m ..	23. 454	59	25	23. 395	25	24	88	E.	40	8. 00	....	Nimbus...	4-4	Hidden ...	......	....	....	....	....	Light snow.
Base...		26. 899	57	37	26. 820	37	36	90. 3	S. E.	8	. 32	....	Nimbus...	4-4	Hidden ...	......	....	....	....	....	Light snow.
Summit	1 0 p. m.	23. 455	58	25	23. 398	25	24	88	E.	50	12. 50	....	Nimbus...	4-4	Hidden ...	......	....	....	....	....	Light snow.
Base...		26. 909	55	36	26. 835	36	35	90	S.W.	3	. 04	....	Nimbus...	4-4	Hidden ...	......	....	....	....	....	Light snow.
Summit	2 0 p. m.	23. 455	62	25	23. 390	25	24	88	E.	56	15. 68	....	Nimbus...	4-4	Hidden ...	......	....	....	....	....	Light snow.
Base...		26. 910	54	36	26. 838	36	35	90	W.	4	. 08	....	Nimbus...	4-4	Hidden ...	......	....	....	....	....	Light snow.
Summit	3 0 p. m.	23. 474	66	25	23. 400	25	24	88	E.	54	14. 58	....	Nimbus...	4-4	Hidden ...	......	....	....	....	....	Light snow.
Base...		26. 922	52	35	26. 855	35	34	90	S.W.	2	. 02	....	Nimbus...	4-4	Hidden ...	......	....	....	....	....	Light snow.
Summit	4 0 p. m.	23. 465	62	24	23. 400	24	23	87	E.	47	11. 04	....	Nimbus...	4-4	Hidden ...	......	....	....	....	....	Light snow.
Base...		26. 930	52	33	26. 863	33	32	89	W.	2	. 02	....	Nimbus...	4-4	Hidden ...	......	....	....	....	....	Light snow.
Summit	4 57 p. m.	23. 460	59	22	23. 401	22	21	86	E.	48	11. 52	....	Nimbus...	4-4	Hidden ...	......	....	....	....	. 08	Light snow.
Base...		26. 920	54	33	26. 848	33	32	89	S.W.	4	. 08	....	Nimbus...	4-4	Hidden ...	......	....	....	5.40 p. m.	. 05	Light snow.
Summit	6 0 p. m.	23. 440	54	21	23. 391	21	20	85	E.	42	8. 82	....	Nimbus...	4-4	Hidden ...	......	....	....	....	....	Light snow.
Base...		26. 927	52	32	26. 860	33	29	61	W.	4	. 08	....	Nimbus...	4-4	Hidden ...	......	....	....	....	....	Cloudy.
Summit	7 0 p. m.	23. 450	50	20	23. 410	20	19	85	N. W.	50	12. 50	....	0	0	Stratus ...	4-4	N. W.	....	6.10 p. m.	. 02	Clearing.
Base...		26. 939	52	32	26. 872	32	29	69. 4	S. E.	8	. 32	....	Stratus ...	4-4	Hidden ...	......	....	....	....	....	Cloudy.
Summit	8 0 p. m.	23. 440	51	20	23. 398	20	19	85	N.	60	18. 00	....	0	0	Stratus ...	4-4	N.	....	....	....	Clearing.
Base...		26. 956	51	33	26. 892	34	28	43	S. E.	8	. 32	....	Stratus ...	4-4	Hidden ...	......	....	....	....	....	Cloudy.
Summit	9 0 p. m.	23. 44[illegible]	53	20	23. 395	20	19	85	N.	62	19. 22	....	0	0	Stratus ...	4-4	N.	....	....	....	Clearing.
Base...		26. 979	51	31	26. 915	32	28	59	N. E.	4	. 08	....	Stratus ...	2-4	0	0	0	....	....	....	Fair.
Summit	10 0 p. m.	23. 473	54	20	23. 424	20	18	70	N.	66	21. 78	....	Stratus ...	1-4	0	0	0	....	....	....	Fair.
Base...		26. 980	50	31	26. 918	31	28	68. 5	N. E.	4	0. 8	....	Stratus ...	2-4	0	0	0	....	....	....	Fair.
Summit	11 22 p. m.	23. 498	56	19	23. 445	19	17	69	N.	60	18. 00	....	Stratus ...	2-4	0	0	0	....	....	....	Fair.
Base...		26. 980	51	32	26. 916	33	28	51	S.W.	4	. 08	....	Stratus ...	4-4	Hidden ...	......	....	....	....	. 01	Cloudy.
Summit	12 0 mid-	23. 498	54	19	23. 449	19	17	69	N.	58	16. 82	....	Stratus ...	2-4	0	0	0	....	....	....	Fair.
Base...	night.	26. 980	48	32	26. 823	33	28	51	S.W.	8	. 32	....	Stratus ...	1-4	Cirrus	1-4	Calm..	....	....	....	Fair.

Meteorological record for May 4, 1873.

Summit	1 0 a. m.	23. 491	52	20	23. 447	20	18	70	N.	62	19. 22	....	Stratus ...	2-4	0	0	0	....	....	....	Fair.
Base...		26. 980	49	31	26. 920	31	27	58	W.	4	. 08	....	0	0	Cirrus	1-4	0	....	....	....	Fair.
Summit	2 0 a. m.	23. 499	53	20	23. 452	20	18	70	N.	59	17. 40	....	Stratus ...	2-4	0	0	0	....	....	....	Fair.
Base...		26. 988	51	29	26. 924	29	26	66. 5	W.	2	. 02	....	0	0	0	0	0	....	....	....	Clear.
Summit	3 0 a. m.	23. 530	54	20	23. 481	20	18	70	N.	50	12. 50	....	Stratus ...	1-4	0	0	0	....	....	....	Fair.
Base...		27. 005	47	26	26. 950	26	25	88	W.	4	. 08	....	0	0	0	0	0	....	....	....	Clear.
Summit	4 0 a. m.	23. 537	56	21	23. 484	21	19	71	N.	48	11. 52	....	Stratus ...	1-4	0	0	0	....	....	....	Fair.
Base...		27. 005	46	24	26. 953	24	23	87	S. E.	4	. 08	....	0	0	0	0	0	....	....	....	Clear.
Summit	5 0 a. m.	23. 350	56	21	23. 477	21	19	71	N.	40	8. 00	....	Stratus ...	1-4	0	0	0	....	....	....	Fair.
Base...		27. 020	46	23	26. 968	23	22	87	N. E.	4	. 08	....	0	0	0	0	0	....	....	....	Clear.

Meteorological record for May 4, 1873—Continued.

(Hourly observation.)

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,892.3 feet. Barometer-readings corrected for temperature and instrumental error only.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.		
Summit	6 0 a.m.	23. 526	49	20	23. 488	20	18	70	N.	42	8. 82	....	Stratus ...	1-4	0	0	0	....	....	....	Clear.
Base ...		27. 045	44	24	26. 995	24	22. 5	81	N. E.	4	. 08	....	0	0	0	0	0	....	....	....	Clear.
Summit	7 0 a.m.	23. 526	48	20	23. 490	20	18	70	N. W.	36	6. 48	....	Hazy	....	0	0	0	....	....	....	Clear.
Base ...		27. 048	44	28	27. 001	28	26	77	N. E.	4	. 08	....	0	0	0	0	0	....	....	....	Clear.
Summit	7 57 a. m.	23. 533	47	20	23. 499	20	18	70	N. W.	42	8. 82	....	Hazy	....	0	0	0	....	....	....	Clear.
Base ...		27. 060	45	34	27. 010	34	33	89. 5	N.	1	. 01	....	0	0	0	0	0	....	....	....	Clear.
Summit	9 0 a. m.	23. 570	57	22	23. 515	22	20	72	N. W.	30	4. 50	....	Hazy	....	0	0	0	....	....	....	Clear.
Base ...		27. 082	47	36	27. 027	36	32	61	N. W.	4	. 08	....	0	0	0	0	0	....	....	....	Clear.
Summit	10 0 a. m.	23. 585	55	23	23. 534	23	21	73	N. W.	24	2. 88	....	Hazy	....	0	0	0	....	....	....	Clear.
Base ...		27. 098	49. 5	38	27. 037	39	34	55	N. W.	6	. 18	....	0	0	0	0	0	....	....	....	Clear.
Summit	11 0 a. m.	23. 584	54	24	23. 535	24	22	74	N. W.	24	2. 88	....	Hazy	....	0	0	0	....	....	....	Clear.
Base ...		27. 109	53	41	27. 040	41	35	49	N.	10	. 50	....	0	0	0	0	0	....	....	....	Clear.
Summit	12 0 m ...	23. 600	58	24	23. 543	24	22	74	N. W.	28	3. 92	....	Hazy	....	0	0	0	....	....	....	Clear.
Base ...		27. 118	57	43	27. 039	43	34	28	E.	8	. 32	....	0	0	0	0	0	....	....	....	Clear.
Summit	1 0 p. m.	23. 620	60	24	23. 559	24	22	74	W.	50	12. 50	....	Hazy	....	0	0	0	....	....	....	Clear.
Base ...		27. 126	58	44	27. 045	44	35	30	N. W.	8	. 32	....	0	0	0	0	0	....	....	....	Clear.
Summit	2 0 p. m.	23. 655	62	23	23. 590	23	21	73	W.	48	11. 52	....	Hazy	....	0	0	0	....	....	....	Clear.
Base ...		27. 129	61	47	27. 041	47	37	28	N. W.	8	. 32	....	0	0	Cumulus ..	1-8	N. W.	....	....	....	Clear.
Summit	3 0 p. m.	23. 655	60	23	23. 594	23	22	86	W.	26	3. 38	....	Hazy	....	Cumulus ..	2-4	W.	....	....	....	Fair.
Base ...		27. 129	63	48	27. 036	48	40	43	N. W.	8	. 32	....	0	0	Cumulus ..	2-4	N. W.	....	....	....	Fair.
Summit	4 0 p. m.	23. 660	56	23	23. 607	23	22	86	W.	29	4. 20	....	Hazy	....	Cumulus ..	2-4	N. W.	....	....	....	Fair.
Base ...		27. 148	64	48	27. 052	48	40	43	N. W.	12	. 72	....	0	0	Cumulus ..	2-4	N. W.	....	....	....	Fair.
Summit	4 57 p. m.	23. 640	53	23	23. 593	23	22	86	W.	24	2. 88	....	Hazy	....	Cumulus ..	2-4	N. W. S.	....	....	....	Fair.
Base ...		27. 160	63	46	27. 067	46	39	47	W.	4	. 08	....	0	0	Cumulus ..	2-4	N. W.	....	....	....	Fair.
Summit	6 0 p. m.	23. 630	56	23	23. 577	23	22	86	W.	29	4. 20	....	Hazy	....	Cumulus ..	1-4	N. W.	....	....	....	Fair.
Base ...		27. 170	62	44	27. 079	44	37	45	N. W.	4	. 08	....	0	0	Cirrus	1-4	N. W.	....	....	....	Fair.
Summit	7 0 p. m.	23. 662	62	22	23. 597	22	21	85	W.	34	5. 78	....	0	0	0	0	0	....	....	....	Clear.
Base ...		27. 188	58	36	27. 107	36	34	80	N. W.	8	. 32	....	Stratus ...	1-4	0	0	0	....	....	....	Fair.
Summit	8 0 p. m.	23. 656	59	22	23. 597	22	21	85	W.	36	6. 48	....	0	0	0	0	0	....	....	....	Clear.
Base ...		27. 179	56	34	27. 103	34	32	80	N.	4	. 08	....	Stratus ...	1-4	0	0	0	....	....	....	Fair.
Summit	9 0 p. m.	23. 645	53	22	23. 598	22	21	85	W.	43	9. 24	....	0	0	0	0	0	....	....	....	Clear.
Base ...		27. 178	56	34	27. 102	34	32	80	N.	4	. 08	....	0	0	Cirrus	2-4	0	....	....	....	Fair.
Summit	10 0 p. m.	23. 620	52	22	23. 576	22	21	85	W.	48	11. 52	....	0	0	0	0	0	....	....	....	Clear.
Base ...		27. 170	54	35	27. 098	36	33	70. 5	N.	8	. 32	....	0	0	Cirrus	2-4	N. W.	....	....	....	Fair.

Summit	11.22 p. m.	23. 590	53	22	23. 543	22	21	85	W.	43	9. 24	....	0	0	Stratus ...	1-4	W.	....	....	....	Fair.
Base...		27. 159	53	36	27. 090	37	34	71	N.	4	. 08	....	Stratus ...	2-4	0	0	0	....	....	....	Fair.
Summit	12 0 mid-night.	23. 580	52	22	23. 536	22	21	85	W.	50	12. 50	....	0	0	Stratus ...	1-4	W.	....	....	....	Fair.
Base...		27. 158	53	36	27. 080	36	34	80	N.	4	. 08	...	Stratus ...	4-4	Hidden ...	...	....	....	....	....	Cloudy.

Meteorological record for May 5, 1872.

Summit	1 0 a. m.	23. 578	52	22	23. 534	22	21	85	W.	48	11. 52	....	0	0	Stratus ...	2-4	W.	....	....	....	Fair.
Base...		27. 140	52	38	27. 073	38	34	63	N.	2	. 02	....	Stratus ...	4-4	Hidden ...	...	....	....	....	....	Cloudy.
Summit	2 0 a. m.	23. 567	50	22	23. 527	22	21	85	W.	56	15. 68	....	0	0	Stratus ...	4-4	W.	....	....	....	Cloudy.
Base...		27. 125	53	39	27. 056	39	34	55	N.	8	. 32	....	Stratus ...	4-4	Hidden ...	...	....	....	....	....	Cloudy.
Summit	3 0 a. m.	23. 558	50	22	23. 518	22	21	85	W.	62	19. 22	....	Stratus ...	4-4	Hidden ...	...	....	....	....	....	Threatening.
Base...		27. 125	52	38	27. 058	38	35	72	N. W.	8	. 32	....	Stratus ...	4-4	Hidden ...	...	....	....	....	....	Cloudy.
Summit	4 0 a. m.	23. 550	47	22	23. 516	22	21	85	W.	66	21. 78	....	Nimbus...	4-4	Hidden ...	...	....	3 45 a.m.	....	....	Light snow.
Base...		27. 130	51	37	27. 066	37	34	71	N. W.	8	. 32	....	Stratus ...	4-4	Hidden ...	...	....	....	....	....	Cloudy.
Summit	5 0 a. m.	23. 540	45	22	23. 510	22	21	85	W.	60	18. 00	....	Nimbus...	4-4	Hidden ...	...	....	....	....	....	Light snow.
Base...		27. 130	50	37	27. 068	37	34	71	W.	4	. 08	....	Stratus ...	4-4	Hidden ...	...	....	....	....	....	Cloudy.
Summit	6 0 a. m.	23. 550	43	22	23. 524	22	21	85	W.	64	20. 48	....	Nimbus...	4-4	Hidden ...	...	....	....	....	....	Light snow.
Base...		27. 130	51	37	27. 066	37	34	71	N. W.	2	. 02	...	Stratus ...	4-4	Hidden ...	...	....	....	....	....	Cloudy.
Summit	7 0 a. m.	23. 578	43	22	23. 552	22	21	85	W.	58	16. 82	....	Nimbus...	4-4	Hidden ...	...	....	....	....	....	Light snow.
Base...		27. 145	50	34	27. 083	34	34	100	W.	4	. 08	....	Nimbus...	4-4	Hidden ...	...	....	6 15 a. m.	....	....	Light snow.
Summit	7 57 a. m.	23. 575	44	22	23. 547	22	21	85	W.	60	18 00	....	Nimbus...	4 4	Hidden ...		....	....	....	. 09	Light snow.
Base...		27. 165	38	33. 5	27. 084	33. 5	33. 5	100	Calm.	0	. 00	....	Nimbus...	4-4	Hidden ...		....	....	....	. 18	Heavy snow.
Summit	9 0 a. m.	23. 605	62	22	23. 540	22	21	85	W.	50	12. 50	....	Nimbus...	4-4	Hidden ...		....	....	....	....	Light snow.
Base...		27. 178	57. 5	34. 5	27. 098	34	34	100	N. W.	4	. 08	....	Dense fog.	...	Hidden ...		....	....	8 45 a.m.	....	Fogy.
Summit	10 0 a. m.	23. 625	58	23	23. 568	23	22	86	W.	41	8. 40	....	Nimbus...	4-4	Hidden ...	...	....	....	....	....	Light snow.
Base...		27. 193	57	36	27. 114	36	35	90	N. W.	6	. 18	....	Fog........	....	Hidden ...	...	....	....	....	....	Foggy.
Summit	11 0 a. m.	23. 623	57	23	23. 568	23	22	86	W.	36	6. 48	....	Stratus ...	4-4	Hidden ...	...	....	....	10 20 a.m.	. 04	Cloudy.
Base...		27. 201	57	39	27. 122	39	38	91	W.	8	. 32	....	Stratus ...	4-4	Hidden ...	...	....	10 45 a. m.	....	....	Cloudy.
Summit	12 0 m ..	23. 645	55	23	23. 594	23	22	86	W.	30	4. 50	....	Stratus ...	4-4	Hidden ...	...	....	....	12 0 m..	....	Cloudy.
Base...		27. 222	57	40	27. 143	40	38	82	N. W.	6	. 18	....	Stratus ...	3-4	0	0	0	....	....	....	Clearing.
Summit	1 0 p. m.	23. 660	61	23	23. 597	23	22	86	W.	20	2. 00	....	Stratus ...	4-4	Hidden ...	...	....	....	....	....	Clearing.
Base...		27. 236	57	42	27. 157	42	39	74	N. W.	6	. 18	....	Stratus ...	3-4	0	0	0	....	....	....	Clearing.
Summit	2 0 p. m.	23. 704	61	23	23. 640	23	22	86	W.	18	1. 62	...	Stratus ...	4-4	Hidden ...	...	....	....	....	....	Clearing.
Base...		27. 251	59	44	27. 166	44	39	60	N. W.	10	. 50	....	Stratus ...	1-4	Cumulus..	2-4	N. W.	....	....	....	Clearing.
Summit	3 0 p. m.	23. 718	56	23	23. 665	23	22	86	W.	22	2. 42	....	0	0	Cumulus..	3-4	W.	....	....	....	Fair.
Base...		27. 266	60	44	27. 179	44	39	60	N. W.	8	. 32	....	Stratus ...	1-4	Cumulus..	2-4	N. W.	....	....	....	Clearing.
Summit	4 0 p. m.	23. 715	56	23	23. 662	23	22	86	W.	44	9. 68	....	0	0	Cumulus..	3-4	W.	....	....	....	Fair.
Base...		27. 287	63	45	27. 192	45	39	53	N. W.	8	. 32	....	0	0	Cumulus..	2-4	N. W.	....	....	....	Fair.
Summit	4 57 p. m.	23. 740	56	23	23. 687	23	21	73	W.	28	3. 92	....	0	0	Cumulus..	2-4	W.	....	....	. 05	Fair.
Base...		27. 300	65	41	27. 200	41	36	57	N. W.	8	. 32	....	0	0	Cumulus..	2-4	N. W.	....	....	....	Fair.
Summit	6 0 p. m.	23. 730	53	22	23. 683	22	20	72	W.	36	6. 48	....	0	0	Cumulus..	2-4	W.	....	....	....	Fair.
Base...		27. 320	62	41	27. 228	41	35	57	N. W.	8	. 32	....	0	0	Cumulus..	1-4	N. W.	....	....	....	Fair.
Summit	7 0 p. m.	23. 745	52	22	28. 701	22	20	72	N. W.	40	8. 00	....	0	0	Cumulus..	1-4	W.	....	....	....	Fair.
Base...		27. 330	57	37	27. 250	37	33	71	N. W.	4	. 08	....	Stratus ...	1-4	Cirrus	1-4	N. W.	....	....	....	Fair.
Summit	8 0 p. m.	23. 768	53	22	23. 720	22	19	59	N. W.	37	6. 84	....	Hazy	....	Cumulus..	1-4	W.	....	....	....	Fair.
Base...		27. 350	53	35	27. 280	35	30	54	N. W.	8	. 32	....	Stratus ...	1-4	Cirrus	1-4	N. W.	....	....	....	Fair.
Summit	9 0 p. m.	23. 800	53	21	23. 752	21	18	58	N. W.	24	2. 88	....	Hazy	....	0	0	0	....	....	....	Clear.
Base...		27. 370	54	31	27. 297	32	28	59	N.	4	. 08	....	0	0	0	0	0	....	....	....	Clear.

Meteorological record for May 5, 1872—Continued.

(Hourly observations.)

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3. Barometer-readings corrected for temperature and instrumental error only.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'en'd.	Ended.		
Summit	10 0 p. m.	23. 818	52	21	23. 773	21	18	58	N. W.	26	3. 38	....	Hazy	....	0	0	0	....	....	....	Clear.
Base ...		27. 390	52	29	27. 322	29	27	78	N.	4	. 08	....	0	0	0	0	0	....	....	....	Clear.
Summit	11 22 p. m.	23. 824	53	20	23. 776	20	17	55	N. W.	50	12. 50	....	0	0	0	0	0	....	....	....	Clear.
Base ..		27. 417	50	27	27. 354	27	26	88	N.	1	. 01	....	0	0	0	0	0	....	....	....	Clear.
Summit	12 0 midnight.	23. 810	53	20	23. 767	20	17	55	N.	48	11. 52	....	0	0	0	0	0	....	....	....	Clear.
Base ...		27. 415	48	27	27. 357	27	25	76	N.	4	. 08	....	0	0	0	0	0	....	....	....	Clear.

Meteorological record for May 6, 1873.

Place of observation.	Time of observation.	Barometer.	Attached.	Exposed.	Corrected barometer.	Dry bulb.	Wet bulb.	Relative humidity.	Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'en'd.	Ended.	Amount of rain or melted snow.	Remarks.
Summit	1 0 a. m.	23. 800	48	20	23. 763	20	18	70	N.	54	14. 58	....	0	0	0	0	0	....	....	....	Clear.
Base ...		27. 410	47	27	27. 354	27	24	64. 4	N.	4	. 08	....	0	0	0	0	0	....	....	....	Clear.
Summit	2 0 a. m.	23. 806	52	19	23. 763	19	17	69	N.	50	12. 50	....	0	0	0	0	0	....	....	....	Clear.
Base ...		27. 415	49	26	27. 355	26	23	63	N.	2	. 02	....	0	0	0	0	0	....	....	....	Clear.
Summit	3 0 a. m.	23. 826	54	19	23. 776	19	17	69	N.	58	16. 82	....	0	0	0	0	0	....	....	....	Clear.
Base ...		27. 430	47	25	27. 374	25	22	62	N.	4	. 08	....	0	0	0	0	0	....	....	....	Clear.
Summit	4 0 a. m.	23. 825	53	19	23. 777	19	17	69	N.	52	13. 52	....	0	0	0	0	0	....	....	....	Clear.
Base ...		27. 433	42	24	27. 390	24	22	74	N.	4	. 08	....	0	0	0	0	0	....	....	....	Clear.
Summit	5 0 a. m.	23. 850	51	19	23. 807	19	17	69	N.	48	11. 52	....	0	0	0	0	0	....	....	....	Clear.
Base ..		27. 435	40	23	27. 397	23	21	73	N.	8	. 32	....	0	0	0	0	0	....	....	....	Clear.
Summit	6 0 a. m.	23. 840	43	19	23. 814	19	17	69	N.	50	12. 50	....	0	0	0	0	0	....	....	....	Clear.
Base ...		27. 465	43	24	27. 419	24	21	61	N.	4	. 08	....	0	0	0	0	0	....	....	....	Clear.
Summit	7 0 a. m.	23. 850	43	20	23. 824	20	18	70	N.	48	11. 52	....	Hazy	....	Haze	....	....	....	....	....	Clear.
Base ...		27. 488	44	30	27. 440	30	25	47	N.	4	. 08	....	0	0	0	0	0	....	....	....	Clear.
Summit	7 57 a. m.	23. 862	43	21	23. 836	21	19	71	N.	50	12. 50	....	Hazy	....	0	0	0	....	....	....	Clear.
Base ...		27. 509	49	34	27. 449	34	28	43	N. E.	4	. 08	....	0	0	0	0	0	....	....	....	Clear.
Summit	9 0 a. m.	23. 912	57	21	23. 856	21	19	71	N.	55	15. 12	....	Hazy	....	0	0	0	....	....	....	Clear.
Base ...		27. 523	59	35	27. 455	35	29	45	N. E.	4	. 08	....	0	0	0	0	0	....	....	....	Clear.
Summit	10 0 a. m.	23. 930	54	22	23. 880	22	20	72	N.	48	11. 52	....	Hazy	....	0	0	0	....	....	....	Clear.
Base ...		27. 536	55	37	27. 461	38	32	45	W.	8	. 32	....	0	0	0	0	0	....	....	....	Clear.
Summit	11 0 a. m.	23. 928	51	32	23. 885	32	30	72	N.	44	9. 68	....	Hazy	....	0	0	0	....	....	....	Clear.
Base		27. 597	54	40	27. 454	40	29	31	W.	6	. 18		0	0	0	0	0				Clear.

Summit	12 0 m ..	23.930	48	22	23.893	22	20	72	N.	55	15.12	....	Hazy	....	0	0	0	....	....	....	Clear.
Base		27.518	53	42	27.448	42	33	27	W.	8	.32	....	0	0	0	0	0	....	....	....	Clear.
Summit	1 0 p. m.	23.920	50	22	23.879	22	20	72	N.	48	11.52	....	Hazy	....	0	0	0	....	....	....	Clear.
Base		27.513	55	44	27.438	44	35	30	S. W.	8	.32	....	0	0	0	0	0	....	....	....	Clear.
Summit	2 0 p. m.	23.955	56	22	23.901	22	20	72	W.	58	16.82	....	Hazy	....	0	0	0	....	....	....	Clear.
Base		27.511	57	45	27.431	45	35	24	W.	10	.50	...	0	0	0	0	0	....	....	....	Clear.
Summit	3 0 p. m.	23.954	60	21	23.891	21	19	71	W.	50	12.50	....	Hazy	....	0	0	0	....	....	....	Clear.
Base		27.519	60	45	27.432	45	37	39	W.	12	.72	....	0	0	0	0	0	....	....	....	Clear.
Summit	4 0 p. m.	23.920	56	21	23.866	21	19	71	W.	44	9.68	....	Hazy	....	0	0	0	....	....	....	Clear.
Base		27.518	62	45	27.426	45	37	39	S. W.	10	.50	....	0	0	0	0	0	....	....	....	Clear.
Summit	4 57 p. m.	23.915	52	21	23.870	21	19	71	W.	58	16.82	....	Hazy	....	0	0	0	....	....	....	Clear.
Base		27.530	65	44	27.430	44	36	37	N.	8	.32	....	0	0	0	0	0	....	....	....	Clear.
Summit	6 0 p. m.	23.940	53	21	23.892	21	19	71	W.	46	10.58	....	Dense haze	....	0	0	0	....	....	....	Fair.
Base		27.527	62	42	27.435	42	35	42	S.	8	.32	....	0	0	0	0	0	....	....	....	Clear.
Summit	7 0 p. m.	23.950	54	21	23.900	21	19	71	W.	36	6.48	....	Dense haze	....	0	0	0	....	....	....	Fair.
Base		27.520	59	39	27.435	39	34	55	N. W.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	8 0 p. m.	23.935	51	20	23.892	20	18	70	W.	30	4.50	....	Dense haze	....	0	0	0	....	....	....	Fair.
Base		27.538	55	33	27.463	33	30	70	S. E.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	9 0 p. m.	23.940	49	20	23.901	20	18	70	W.	47	11.04	...	Dense haze	....	0	0	0	....	....	....	Fair.
Base		27.550	57	32	27.470	32	29	69	S. E.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	10 0 p. m.	23.953	50	20	23.912	20	18	70	W.	48	11.52	....	Dense haze	....	0	0	0	....	....	....	Fair.
Base		27.560	58	31	27.477	31	29	79	S. E.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	11.22 p. m.	23.958	51	20	23.915	20	18	70	W.	60	18.00	....	Hazy	....	0	0	0	....	....	....	Fair.
Base		27.559	52	31	27.491	31	28	68.5	S. E.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	12 0 mid-night.	23.953	53	20	23.905	20	18	70	W.	56	15.68	....	Hazy	....	0	0	0	....	....	....	Fair.
Base		27.560	51	31	27.495	31	28	68.5	S. E.	4	.08	....	0	0	0	0	0	....	....	....	Clear.

Meteorological record for May 7, 1873.

Summit	1 0 a. m.	23.999	56	20	23.945	20	18	70	W.	50	12.50	....	Haze	....	0	0	0	....	....	....	Fair.
Base		27.550	51	31	27.385	31	28	68.5	S. E.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	2 0 a. m.	24.010	55	20	23.958	20	18	70	W.	42	8.82	....	Hazy	....	0	0	0	....	....	....	Fair.
Base		27.555	52	29	27.487	29	26	66.5	S. E.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	3 0 a. m.	24.013	55	19	23.961	19	17	69	W.	40	8.00	....	Hazy	....	0	0	0	....	....	....	Fair.
Base		27.555	53	29	27.485	29	26	66.5	S. E.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	4 0 a. m.	24.022	57	19	23.966	19	17	69	W.	36	6.48	....	Hazy	....	0	0	0	....	....	....	Fair.
Base		27.563	52	28	27.495	28	26	77	S. E.	4	.06	....	0	0	0	0	0	....	....	....	Clear.
Summit	5 0 a. m.	24.038	56	19	23.984	19	17	69	W.	37	6.84	....	Haze	....	0	0	0	....	....	....	Fair.
Base		27.564	48	28	27.506	28	25	65.5	E.	4	.08	....	0	0	Cirrus	1-4	Calm	....	....	....	Clear.
Summit	6 0 a. m.	24.059	52	19	24.005	19	17	69	W.	30	4.50	....	Hazy	....	0	0	0	....	....	....	Clear.
Base		27.578	46	28	27.525	28	25	65.5	E.	4	.08	....	0	0	Cirrus	1-4	Calm	....	....	....	Clear.
Summit	7 0 a. m.	24.070	48	21	24.033	21	19	71	N. W.	28	3.92	....	Hazy	....	0	0	0	....	....	....	Clear.
Base		27.600	52	34	27.532	34	32	79	S. E.	2	.02	....	0	0	Cirrus	1-4	0	....	....	....	Clear.
Summit	7 57 a. m.	24.060	47	22	24.025	22	20	72	N.	14	.98	....	Hazy	....	0	0	0	....	....	....	Clear.
Base		27.615	59	39	27.530	39	32	38	N. W.	4	.08	....	0	0	Cirrus	1-4	0	....	....	....	Clear.
Summit	9 0 a. m.	24.090	52	23	24.047	23	21	73	N.	12	.72	....	Hazy	....	Cirro-strat.	1-4	0	....	....	....	Clear.
Base		27.622	60	42	27.535	42	33	27	W.	4	.08	....	0	0	Cirrus	1-4	W.	....	....	....	Clear.

Meteorological record for May 7, 1873—Continued.

(Hourly observation.)

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer-readings corrected for temperature and instrumental error only.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'd.	Ended.		
Summit	10 0 a. m.	24. 104	53	24	24. 056	24	22	74	N.	10	. 50	....	Hazy	....	Cirro-strat.	1-4	0	....	....	....	Fair.
Base...		27. 624	60	43	27. 537	44	35	30	S. W.	4	. 08	....	0	0	Cirrus.....	1-8	N. W.	....	....	....	Clear.
Summit	11 0 a. m	24. 104	51	28	24. 061	28	26	77	N.	12	. 72	....	Hazy	....	Cirro-strat.	1-4	0	....	....	....	Clear.
Base.		27. 628	62	46	27. 536	46	37	33	W.	4	. 08	....	0	0	0	0	0	....	....	....	Clear.
Summit	12 0 m...	24. 134	55	29	24. 082	29	27	78	W.	8	. 32	....	Hazy	....	Cirro-strat.	1-4	0	....	....	....	Clear.
Base...		27. 619	60	48	27. 532	48	38	29	S. W.	4	. 08	....	0	0	Cirrus.....	1-4	N. W.	....	....	....	Clear.
Summit	1 0 p. m.	24. 130	55	32	24. 078	32	30	79	W.	7	. 24	....	Hazy	....	Cirro-strat.	1-4	0	....	....	....	Clear.
Base...		27. 610	63	50	27. 518	50	39	26	S. E.	6	. 18	....	0	0	Cirrus.....	1-4	N. W.	....	....	....	Clear.
Summit	2 0 p. m.	24. 128	54	30	24. 078	30	28	78	W.	10	. 50	....	Hazy	....	Cirro-strat.	1-4	0	....	....	....	Clear.
Base...		27. 609	67	53	27. 504	53	39	18	N. W.	4	. 08	....	0	0	Cirrus.....	1-4	N. W.	....	....	....	Clear.
Summit	3 0 p. m.	24. 140	59	30	24. 080	30	28	78	W.	4	. 08	....	Hazy	....	Cirro-strat.	1-4	0	....	....	....	Clear.
Base...		27. 609	71	54	27. 495	54	42	26	E.	4	. 08	....	0	0	Cirrus.....	1-4	N. W.	....	....	....	Clear.
Summit	4 0 p. m.	24. 140	50	30	24. 080	30	28	78	W.	5	. 12	....	Hazy	....	Cirro-strat.	1-4	0	....	....	....	Fair.
Base ..		27. 615	73	54	27. 496	54	42	26	S.	4	. 08	....	0	0	Cirrus	1-4	N. W.	....	....	....	Clear.
Summit	4 57 p. m.	24. 139	57	29	24. 074	29	27	78	W.	8	. 32	....	Hazy	....	Cirro-strat.	1-4	0	....	....	....	Fair.
Base ..		27. 610	73	52	27. 491	52	40	23	S. W.	4	. 08	....	0	0	Cirrus.....	1-4	N. W.	....	....	....	Clear.
Summit	6 0 p. m.	24. 130	59	28	24. 070	28	26	77	W.	2	. 02	....	Hazy	....	Cirro-strat.	1-4	0	....	....	....	Fair.
Base ..		27. 608	69	50	27. 498	50	39	26	N. W.	4	. 08	....	0	0	Cirrus.....	1-4	N. W.	....	....	....	Clear.
Summit	7 0 p. m.	24. 135	61	28	24. 070	28	26	77	0	0	0	....	Hazy	....	Cirro-strat.	1-4	0	....	....	....	Fair.
Base ..		27. 600	61	41	27. 510	41	35	49	N.	4	. 08	....	Stratus ...	1-4	Cirrus.....	1-4	N. W.	....	....	....	Fair.
Summit	8 0 p. m.	24. 145	65	27	24. 072	27	25	77	N.	18	1. 62	....	Hazy	....	0	0	0	....	....	....	Clear, (aurora.)
Base ..		27. 600	61	38	27. 510	38	33	54	N.	4	. 08	....	Stratus ...	1-4	Cirrus.....	1-4	Calm..	....	....	....	Fair.
Summit	9 0 p. m.	24. 160	66	27	24. 085	27	23	77	N.	21	2. 88	....	Hazy	....	0	0	0	....	....	....	Clear.
Base...		27. 600	59	35	27. 515	35	32	70	N.	4	. 08	....	0	0	Cirrus.....	1-4	Calm..	....	....	....	Clear.
Summit	10 0 p. m.	24. 160	65	27	24. 087	27	25	77	N.	30	4. 50	....	Hazy	....	0	0	0	....	....	....	Clear.
Base ..		27. 600	55	35	27. 525	35	32	70	N.	4	. 08	....	0	0	Cirrus.....	1-4	Calm..	....	....	....	Clear.
Summit	11 22 p. m.	24. 162	60	26	24. 099	26	24	76	N.	20	2. 00	....	Hazy	....	0	0	0	....	....	....	Clear.
Base ..		27. 600	55	33	27. 525	33	31	80	N.	4	. 08	....	Stratus ...	1-4	0	0	0	....	....	....	Clear.
Summit	12 0 midnight.	24. 162	61	26	24. 097	26	24	76	N.	26	3. 38	....	Hazy	....	0	0	0	....	....	....	Clear.
Base ..		27. 598	55	34	27. 523	34	32	79	N.	4	. 08	....	Stratus ...	1-4	0	0	0	....	....	....	Clear.

Meteorological record for May 8, 1872.

Summit	1 0 a. m.	24. 145	64	25	24. 074	25	23	76	N.	22	2. 42	....	Hazy	....	Cirro-strat	2-4	N.	....	....	....	Fair.
Base . .		27. 592	57	35	27. 512	35	30	54	N.	4	. 08	....	0	0	Cirrus	1-4	N.	....	....	....	Clear.
Summit	2 0 a. m.	24. 160	67	25	24. 082	25	23	76	N.	12	. 72	....	0	0	Cirro-strat	2-4	N.	....	....	....	Fair.
Base . .		27. 595	53	35	27. 525	35	30	54	N.	4	. 08	....	.0	0	Cirrus	1-4	N.	....	....	....	Clear.
Summit	3 0 a. m.	24. 155	65	25	24. 082	25	23	76	N.	2	. 02	....	Hazy	....	Cirro-strat	1-4	N.	....	....	....	Fair.
Base . .		27. 595	53	36	27. 525	36	31	55	N.	4	. 08	...	0	0	0	0	0	....	....	....	Clear.
Summit	4 0 a. m.	24. 155	65	25	24. 082	25	23	76	0	0	0	....	Hazy	....	Cirro-strat	1-4	N.	....	....	....	Fair.
Base . .		27. 595	53	33	27. 546	33	29	69	N.	4	. 08	....	0	0	Hazy	0	0	....	....	....	Clear.
Summit	5 0 a. m.	24. 180	70	26	24. 096	26	24	76	0	0	0	....	Hazy	....	Cirro-strat	2-4	0	....	....	....	Fair.
Base . .		27. 605	50	33	27. 542	33	29	69	N.	4	. 08	....	Hazy	0	Cirrus ...	2-4	W.	....	....	....	Fair.
Summit	6 0 a. m.	24. 176	67	27	24. 098	27	25	77	0	0	0	....	Hazy	.. .	Cirro-strat	2-4	0	....	....	....	Fair.
Base . .		27. 610	53	33	27. 540	33	31	85	N.	4	. 08	....	0	0	Cirrus	1-4	W.	....	....	....	Clear.
Summit	7 0 a. m.	24. 181	64	27	24. 110	27	25	77	0	0	0	....	Hazy	....	Cirro-strat	2-4	0	....	....	....	Fair.
Base . .		27. 620	54	39	27. 547	39	32	70	N.	2	. 02	....	0	0	Cirrus	1-4	W.	....	....	....	Fair.
Summit	7 57 a. m.	24. 170	58	30	24. 112	30	28	78	0	0	0	....	Hazy	....	Cirro-strat	2-4	0	....	....	....	Fair.
Base . .		27. 620	57	45	27. 54[illegible]	45	37	39	N.	2	. 02	....	Hazy	....	Cirrus	2 4	Calm.	....	....	....	Fair.
Summit	9 0 a. m.	24. 170	61	32	24. 105	32	30	79	N.	2	. 02	....	Hazy	....	Cirro-strat	2-4	N. W.	....	....	....	Fair.
Base .		27. 632	61	49	27. 542	49	41	44	N. W.	2	. 02	....	0	0	Cirrus	3-4	N. W.	....	....	....	Fair.
Summit	10 0 a. m.	24. 160	56	34	24. 106	34	32	79	N.	4	. 08	....	Hazy	....	Cirro-strat	2-4	N. W.	....	....	....	Fair.
Base . .		27. 620	60	50	27. 533	50	42	45	W.	4	. 08	....	0	0	Cirrus	3-4	N. W.	....	....	....	Fair.
Summit	11 0 a. m.	24. 164	54	36	24. 114	36	34	80	N.	4	. 08	....	Hazy	....	Cirro-strat	2-4	N. W.	....	....	....	Fair.
Base . .		27. 613	61	53	27. 523	53	43	36	N. W.	4	. 08	....	0	0	Cirrus	2-4	N. W.	....	....	....	Fair.
Summit	12 0 m...	24. 158	57	36	24. 102	36	34	80	N.	6	. 18	....	Hazy	....	Cirro-strat	2 4	N. W.	....	....	....	Fair.
Base . .		27. 600	63	55	27. 505	55	45	39	W.	4	. 08	....	0	0	Cirrus	3-4	.N. W.	....	....	....	Fair.
Summit	1 0 p. m.	24. 154	61	35	24. 089	35	33	80	N.	14	. 98	....	Hazy	....	Cirro-strat	2-4	N. W.	....	....	....	Fair.
Base . .		27. 591	65	57	27. 491	56	46	40	W.	4	. 08	....	Hazy	....	Cirrus	2-4	N. W.	....	....	....	Fair.
Summit	2 0 p. m.	24. 143	60	36	24. 080	36	34	80	N.	6	. 18	....	Hazy	....	Cirro-cum	2-4	N. W.	....	....	....	Fair.
Base . .		27. 583	64	57	27. 486	57	46	36	S. E.	8	. 32	....	Hazy	....	Cirrus	3-4	N. W.	....	....	....	Fair.
Summit	3 0 p. m.	24. 130	58	35	24. 072	35	33	80	N.	8	. 32	....	Hazy	...	Cirro-cum.	2-4	N. W.	....	....	....	Fair.
Base . .		27. 576	67	58	27. 471	58	47	37	S. E.	6	. 18	....	Hazy	....	Cirrus	3-4	N. W.	....	....	....	Fair.
Summit	4 0 p. m.	24. 105	58	35	24. 047	35	33	80	N. W.	5	. 12	....	Hazy	...	Cirro-strat	2-4	N. W.	....	....	....	Fair.
Base...		27. 562	68	56	27. 455	56	45	35	S. E.	4	. 08	....	Hazy	....	Cirrus	3-4	N. W.	....	....	....	Fair.
Summit	4 57 p. m.	24. 115	57	34	24. 059	34	32	79	0	0	0	...	Hazy	....	Cirro-strat	2-4	N. W.	....	....	....	Fair.
Base...		27. 559	67	53	27. 454	53	43	36	S. E.	8	. 32	....	Stratus ...	1-4	Cirrus	2-4	N. W.	....	....	....	Fair.
Summit	6 0 p. m.	24. 100	57	34	24. 044	34	32	79	N. W.	16	1. 28	....	Hazy	....	Cirro-strat	2-4	N. W.	....	....	....	Fair.
Base...		27. 557	66	50	27. 455	50	41	39	S. E.	4	. 08	....	Stratus ...	1-4	Cirrus	2-4	N. W.	....	....	....	Fair.
Summit	7 0 p. m.	24. 095	53	32	24. 047	32	31	89	N. W.	22	2. 42	....	Hazy	....	Cirro-strat	3-4	N. W.	....	....	....	Fair.
Base ..		27. 558	53	40	27. 488	40	37	73	S. E.	4	. 08	....	Stratus ...	1-4	Cirrus	2-4	N. W.	....	....	....	Fair.
Summit	8 0 p. m.	24. 110	63	33	24. 047	33	32	89	N.	24	2. 88	....	Hazy	....	Cirro-strat	1-4	N. W.	....	....	....	Fair.
Base...		27. 558	59	38	27. 473	38	35	72	S. E.	4	. 08	....	Stratus ...	1-4	Cirrus	2-4	N. W.	....	....	....	Fair.
Summit	9 0 p. m.	24. 118	63	32	24. 049	32	31	89	N.	20	2. 00	....	Hazy	....	Cirro-strat	1-4	N. W.	....	....	....	Fair.
Base...		27. 560	58	37	27. 447	37	34	71	S. E.	4	. 08	....	Stratus ...	1·4	Cirrus	1-4	Calm...	....	....	....	Fair.
Summit	10 0 p. m.	24. 100	62	31	24. 033	31	30	89	N.	26	3. 38	....	Hazy	....	Cirro-strat	1-4	N. W.	....	....	....	Fair.
Base...		27. 550	57	35	27. 470	35	33	80	S. E.	4	. 08	....	0	0	Cirrus	1-4	Calm ..	....	....	....	Clear.
Summit	11 22 p. m.	24. 070	58	30	24. 012	30	29	89	N.	36	6. 48	....	Hazy	....	0	0	0	....	....	....	Clear.
Base...		27. 540	54	33	27. 467	33	32	89	S. E.	4	. 08	....	0	0	Cirrus	1-4	Calm ..	....	....	....	Clear.
Summit	12 0 mid-night.	24. 060	60	30	23. 997	30	29	89	N.	22	2. 42	....	Hazy	....	0	0	0	....	....	....	Clear.
Base...		27. 529	54	32	27. 456	32	31	90	S. E.	4	. 08	....	0	0	Cirrus	1-4	Calm ..	....	....	....	Clear.

Meteorological record for May 9, 1873.

(Hourly observations.)

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer-readings corrected for temperature and instrumental error only.

Place of observation.	Time of observation.	Barometer.	THERM. Attached.	THERM. Exposed.	Corrected barometer.	HYGROM. Dry bulb.	HYGROM. Wet bulb.	Relative humidity.	WIND. Direction.	WIND. Velocity per hour.	WIND. Pressure per sq. ft.	WIND. Daily velocity.	LOWER CLOUDS. Kind.	LOWER CLOUDS. Amount.	UPPER CLOUDS. Kind.	UPPER CLOUDS. Amount.	UPPER CLOUDS. Direction, (moving from)—	RAIN OR SNOW. Commenc'd.	RAIN OR SNOW. Ended.	Amount of rain or melted snow.	Remarks.
Summit	1 0 a. m.	24.046	67	28	23.970	28	27	88	S. E.	40	8.00	....	Hazy	....	0	0	0	....	....	....	Clear.
Base		27.510	52	33	27.442	33	31	80	S. E.	4	.08	....	0	0	Cirrus	1-4	Calm.	....	....	....	Clear.
Summit	2 0 a. m.	24.035	63	27	23.966	27	26	88	S. E.	37	6.84	....	Hazy	....	Cirro-strat	3-4	S. E.	....	....	....	Fair.
Base		27.490	50	35	27.427	35	32	70	S. E.	4	.08	....	0	0	Cirrus	2-4	N.	....	....	....	Fair.
Summit	3 0 a. m.	24.030	63	26	23.961	26	25	88	S. E.	35	6.12	....	Stratus	1-4	Cirrus	1-4	S. E.	....	....	....	Fair.
Base		27.485	50	39	27.422	39	33	46	S. E.	4	.08	....	0	0	Cirrus	1-4	N.	....	....	....	Clear.
Summit	4 0 a. m.	24.013	60	25	23.950	25	24	88	S. E.	29	4.20	....	0	0	Cirrus	2-4	S. E.	....	....	....	Fair.
Base		27.477	51	40	27.412	40	34	48	S. E.	8	.32	....	0	0	Cirrus	1-4	W.	....	....	....	Clear.
Summit	5 0 a. m.	24.020	58	25	23.942	25	23	74	S. E.	40	8.00	....	Stratus	1-4	Cirro-strat	2-4	S. E.	....	....	....	Fair.
Base		27.470	52	41	27.402	41	34	41	N. E.	8	.32	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	6 0 a. m.	24.003	60	24	23.94	24	22	74	S. E.	36	6.48	....	Stratus	2-4	Cirrus	1-4	S. E.	....	....	....	Fair.
Base		27.470	52	41	27.402	41	34	44	S. W.	4	.08	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	7 0 a. m.	24.020	63	24	23.951	24	22	74	S. E.	42	8.82	....	Stratus	3-4	Hidden	....	....	....	....	....	Fair.
Base		27.485	56	44	27.407	44	34	23	S. E.	8	.32	....	Stratus	1-4	Cirrus	2-4	Calm.	....	....	....	Fair.
Summit	7 57 a. m.	24.101	57	26	23.954	26	24	76	S. E.	36	6.48	....	Stratus	3-4	Hidden	....	....	....	....	....	Fair.
Base		27.480	55	45	27.405	45	36	31	S. E.	8	.32	....	Stratus	4-4	Hidden	....	—	....	....	....	Cloudy.
Summit	9 0 a. m.	24.000	61	27	23.935	27	26	88	E.	41	8.40	....	Stratus	3-4	Hidden	....	....	....	....	....	Fair.
Base		27.489	56	46	27.413	47	38	34	S. E.	8	.32	....	Stratus	2-4	Cirrus	2-4	Calm.	....	....	....	Cloudy.
Summit	10 0 a. m.	24.010	59	27	23.950	27	26	88	S. E.	46	10.58	....	Stratus	2-4	Hidden	....	....	....	....	....	Fair.
Base		27.488	55	46	27.413	46	38	40	E.	6	.18	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	11 0 a. m.	24.030	67	28	23.952	28	27	88	S. E.	48	11.52	....	Stratus	2-4	Hidden	....	....	....	....	....	Fair.
Base		27.469	55	48	27.414	49	39	31	N. W.	6	.18	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	12 0 m.	24.040	69	29	23.958	29	28	89	S. E.	40	8.00	....	Stratus	2-4	Hidden	....	....	....	....	....	Fair.
Base		27.489	56	49	27.411	50	39	26	W.	6	.18	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	1 0 p. m.	24.030	60	29	23.967	29	28	89	S. E.	30	4.50	....	Hazy	....	Stratus	4-4	S. E.	....	....	....	Fair.
Base		27.487	58	51	27.404	31	40	28	S. E.	6	.18	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	2 0 p. m.	24.030	60	29	23.967	29	28	89	S. E.	36	6.48	....	Hazy	....	Stratus	4-4	S. E.	....	....	....	Fair.
Base		27.501	65	50	27.401	50	40	32	S. E.	6	.18	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	3 0 p. m.	24.022	72	28	23.934	28	27	88	E.	48	11.52	....	Hazy	....	Stratus	4-4	S. E.	....	....	....	Cloudy.
Base		27.485	61	49	27.393	49	39	31	E.	4	.08	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	4 0 p. m.	24.000	62	27	23.933	27	26	88	E.	44	9.36	....	Hazy	....	Stratus	4-4	S. E.	....	....	....	Cloudy.
Base		27.469	60	47	27.382	47	38	34	E.	6	.18	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	4 57 p. m.	24.070	64	27	23.809	27	26	88	E.	48	11.82	....	Stratus	3-4	Hidden	....	....	....	....	....	Cloudy.
Base		27.460	59	47	27.375	47	38	34	E.	4	.08	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.

Summit	6 0 p.m.	23.955	58	29	23.897	29	28	89	E.	50	12.50		Stratus	3-4	Hidden						Cloudy.
Base		27.429	56	47	27.351	47	39	41	S. E.	8	.32		Stratus	4-4	Hidden						Cloudy.
Summit	7 0 p.m.	23.968	59	29	23.908	29	28	89	E.	40	8.00		Nimbus	4-4	Hidden			6.15 p. m.			Sleeting.
Base		27.410	57	43	27.320	43	39	67	S. E.	16	1.28		Nimbus	4 4	Hidden			6.10 p. m.			Light rain.
Summit	8 0 p.m.	23.960	58	29	23.902	29	28	89	E.	28	3.92		Nimbus	4-4	Hidden						Sleeting.
Base		27.440	60	45	27.353	46	39	47	S. E.	12	.72		Nimbus	4-4	Hidden						Light rain.
Summit	9 0 p.m.	23.950	62	28	23.883	28	27	88	E.	38	7.22		Nimbus	4-4	Hidden				9.00 p. m.		Sleeting.
Base		27.420	57	45	27.340	45	38	46	E.	16	1.28		Stratus	2-4	Cirrus	2-4	C.				Cloudy.
Summit	10 0 p.m.	23.936	61	28	23.871	28	27	88	E.	43	9.24		Nimbus	4-4	Hidden						Sleeting.
Base		27.421	57	44	27.341	44	40	64	E.	16	1.28		Nimbus	4-4	Hidden						Light rain.
Summit	11 22 p.m.	23.935	62	27	23.868	27	26	88	S. E.	46	10.58		Stratus	4-4	Hidden				10.30 p. m	.05	Cloudy.
Base		27.400	57	45	27.320	45	38	46	S. E.	16	1.28		Nimbus	2-4	Cirrus	2-4	S. W.			.11	Light rain.
Summit	12 0 m.	23.930	60	27	23.867	27	26	88	S. E.	48	11.52		Stratus	4-4	Hidden						Cloudy.
Base		27.392	56	46	27.314	45	39	53	S. E.	12	.72		Stratus	2-4	Cirrus	2-4	C.	11.50 p. m	12.00 m.		Threatening.

Meteorological record for May 10, 1873.

Summit	1 0 a. m.	23.900	57	30	23.844	30	29	89	S. E.	54	14.58		Stratus	4-4	Hidden						Threatening.
Base		27.370	57	44	27.290	44	41	75.6	E.	20	2.00		Stratus	2-4	Hazy	0	0				Fair.
Summit	2 0 a. m.	23.880	56	29	23.826	29	28	89	S. E.	49	12.00		Stratus	4-4	Hidden						Threatening.
Base		27.350	55	41	27.275	41	41	83.3	E.	20	2.00		Nimbus	4-4	Hidden			1.30 a. m.			Light rain.
Summit	3 0 a. m.	23.879	57	28	23.823	28	27	88	S. E.	53	14.04		Stratus	4-4	Hidden						Threatening.
Base		27.313	55	42	27.238	42	40	82.9	E.	20	2.00		Nimbus	4-4	Hidden						Light rain.
Summit	4 0 a. m.	23.843	55	28	23.791	28	27	88	S.	50	12.50		Stratus	4-4	Hidden						Threatening.
Base		27.310	55	42	27.235	42	40	82.9	S. E.	20	2.00		Nimbus	4-4	Hidden						Light rain.
Summit	5 0 a. m.	23.855	53	29	23.807	29	28	89	S.	47	11.04		Stratus	4-4	Hidden						Threatening.
Base		27.334	58	41	27.251	41	40	91.2	S. E.	24	2.88		Nimbus	4-4	Hidden						Light rain.
Summit	6 0 a. m.	23.840	53	31	23.792	31	30	89	S.	46	10.58		Stratus	4-4	Hidden						Threatening.
Base		27.319	57	42	27.239	42	41	91.4	S. E.	24	2.88		Nimbus	4-4	Hidden						Light rain.
Summit	7 0 a. m.	23.838	54	32	23.788	32	31	89	S. E.	52	13.52		Stratus	4-4	Hidden						Threatening.
Base		27.325	57	44	27.245	44	43.5	95.8	S. E.	20	2.00		Nimbus	4-4	Hidden						Light rain.
Summit	7 57 a. m.	23.838	57	33	23.782	33	32	89	S.	58	16.82		Nimbus	4-4	Hidden			7.30 a. m.		.06	Heavy rain.
Base		27.305	57	46	27.225	46	45	92.1	E.	20	2.00		Nimbus	4-4	Hidden					.29	Light rain.
Summit	9 0 a. m.	23.835	57	33	23.779	33	32	89	S.	56	15.68		Stratus	4-4	Hidden				8.22 a. m.	.01	Threatening.
Base		27.302	58	48	27.219	49	48	92.6	E.	20	2.00		Nimbus	4-4	Hidden						Light rain.
Summit	10 0 a. m.	23.855	61	34	23.790	34	33	90	S.	60	18.00		Stratus	4-4	Hidden						Threatening.
Base		27.306	58	50	27.223	50	47	78.6	E.	20	2.00		Nimbus	2-4	Cirrus	2-4	W.				Light rain.
Summit	11 0 a. m.	23.883	64	35	23.812	35	34	90	S.	30	4.50		Stratus	4-4	Hidden						Threatening.
Base		27.319	62	53	27.227	54	50	73.8	E.	12	.72		Stratus	4-4	Hidden				10.05 a. m.		Cloudy.
Summit	12 0 mid-night.	23.889	62	37	23.822	37	36	90	S.	36	6.48		Stratus	4-4	Hidden						Threatening.
Base		27.318	63	54	27.223	54	51	80.2	E.	12	.72		Stratus	4-4	Hidden						Cloudy.
Summit	1 0 p. m.	23.885	62	38	23.818	38	37	90	S.	32	5.12		Stratus	4-4	Hidden						Threatening.
Base		27.299	65	57	27.199	58	54	75.6	S. E.	12	.72		Stratus	2-4	Cirro-cum.	2-4	S. W.				Cloudy.
Summit	2 0 p. m.	23.898	64	38	23.827	38	37	90	S.	34	5.78		Stratus	4-4	Hidden						Threatening.
Base		27.309	65	51	27.209	52	48	72.7	S.	6	.18		Stratus	4-4	Hidden						Cloudy.
Summit	3 0 p. m.	23.925	68	37	23.845	37	36	90	S.	20	2.00		Stratus	4-4	Hidden						Threatening.
Base		27.301	62	48	27.209	49	47	85.3	S. W.	2	.02		Stratus	4-4	Hidden						Cloudy.
Summit	4 0 p. m.	23.925	67	36	23.847	36	35	90	S.	10	.50		Stratus	3-4	Hidden						Clearing.
Base		27.308	63	52	27.213	52	50	86.1	W.	4	.08		Stratus	2-4	Cirrus	2-4	S. W.				Clearing.

Meteorological record for May 10, 1873—Continued.

(Hourly observations.)

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer-readings corrected for temperature and instrumental error only.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.		
Summit	4 57 p. m.	23.915	63	35	23.846	35	34	90	S. W.	14	.98	....	Cumulus..	2-4	0	0	0	....	....	....	Fair.
Base		27.300	67	51	27.195	51	48.5	82.4	W.	4	.08	....	Stratus ...	1-4	0	0	0	....	....	.03	Clear.
Summit	6 0 p. m.	23.908	62	35	23.841	35	34	90	W.	12	.72	....	Stratus ...	4-4	Hidden ...	...	....	....	....	....	Cloudy.
Base		27.321	64	47.5	27.219	47.5	46	88.6	W.	4	.08	....	Stratus ...	3-4	0	0	0	....	....	....	Fair.
Summit	7 0 p. m.	23.900	61	32	23.835	32	31	89	W.	18	1.62	....	Stratus ...	4-4	Hidden ...	...	....	....	....	....	Cloudy.
Base		27.318	61	42	27.228	42	40.5	87.1	S. E.	4	.08	....	Stratus ...	3-4	0	0	0	....	....	....	Fair.
Summit	8 0 p. m.	23.918	63	32	23.851	32	31	89	N. W.	22	2.42	....	Cumulus..	2-4	0	0	0	....	....	....	Fair.
Base		27.322	59	41	27.237	41	39.5	86.7	S. E.	4	.08	....	Stratus ...	4-4	Hidden ...	...	....	....	....	....	Cloudy.
Summit	9 0 p. m.	23.950	66	32	23.875	32	31	89	N. W.	8	.32	....	Cumulus..	2-4	0	0	0	....	....	....	Fair.
Base		27.328	60	40	27.241	40	39.5	95.4	S. E.	4	.08	....	Stratus ...	4-4	Hidden ...	...	....	....	....	....	Cloudy.
Summit	10 0 p. m.	23.965	67	34	23.887	34	33	90	W.	6	.18	....	Cumulus..	2-4	0	0	0	....	....	....	Fair.
Base		27.310	59	38	27.225	39	38	97	S. E.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	11 22 p. m.	23.940	65	33	23.867	33	32	89	W.	4	.08	....	Cumulus ..	2-4	0	0	0	....	....	....	Fair.
Base		27.310	58	39	27.227	40	39	91	S. E.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	12 0 midnight.	23.940	64	33	23.869	33	32	89	0	0	0	....	Cumulus..	2-4	0	0	0	....	....	....	Fair.
Base		27.309	57	37	27.229	37	36	90.3	S. E.	4	.08	....	0	0	Cirrus	1-4	0	....	....	....	Clear.

Meteorological record for May 11, 1872.

Place of observation.	Time of observation.	Barometer.	Attached.	Exposed.	Corrected barometer.	Dry bulb.	Wet bulb.	Relative humidity.	Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.	Amount of rain or melted snow.	Remarks.
Summit	1 0 a. m.	23.930	62	33	23.863	33	32	89	0	0	0	....	Cumulus..	2-4	0	0	0	....	....	....	Fair.
Base		27.300	58	37	27.217	37	36	90.3	S. E.	4	.08	....	0	0	Cirrus	1-4	0	....	....	....	Clear.
Summit	2 0 a. m.	23.920	62	33	23.853	33	32	89	S. W.	18	1.62	....	Cumulus..	2-4	Cirrus	1-4	S. W.	....	....	....	Fair.
Base		27.300	57	37.5	27.220	37.5	36.5	90.4	S. E.	4	.08	....	0	0	Cirrus	1-4	0	....	....	....	Clear.
Summit	3 0 a. m.	23.910	64	33	23.839	33	32	89	S. W.	14	.98	....	Cumulus..	2-4	0	0	0	....	....	....	Fair.
Base		27.290	58	37	27.207	37	36	90.3	S. E.	4	.08	....	0	0	Cirrus	1-4	0	....	....	....	Clear.
Summit	4 0 a. m.	23.878	65	32	23.805	32	31	89	S. W.	24	2.88	....	Cumulus..	2-4	0	0	0	....	....	....	Fair.
Base		27.255	56.5	39	27.174	39	38	90.7	S. E.	4	.08	....	0	0	Cirrus	1-4	S.	....	....	....	Clear.
Summit	5 0 a. m.	23.870	59	31	23.813	34	32	79	S. W.	22	2.42	....	Cumulus..	2-4	Cirrus	1-4	W.	....	....	....	Fair.
Base		27.248	54	38	27.176	38	37	90.5	S. E.	4	.08	....	0	0	Cirrus	1-4	S.	....	....	....	Fair.
Summit	6 0 a. m.	23.870	56	34	23.816	34	32	79	S. W.	16	1.28	....	Cumulus..	3-4	Cirrus	1-4	S. W.	....	....	....	Fair.
Base		27.250	55	40	27.175	40	39	91	W.	4	.08	....	Stratus ...	1-4	Cirrus	2-4	S.	....	....	....	Fair.

Summit	7 0 a. m.	23.868	56	34	23.814	34	32	79	S. W.	20	2.00		Stratus	2-4	Stratus	2-4	S. W.				Fair.
Base		27.263	55	41	27.188	41	40	91.2	0	0	0		Stratus	4-4	Hidden						Cloudy.
Summit	7 57 a. m.	23.860	60	34	23.797	34	33	90	S. W.	24	2.88		Stratus	4-4	Hidden						Cloudy.
Base		27.245	61	43	27.157	43	42	91.6	S.	1	.01		Stratus	4-4	Hidden						Cloudy.
Summit	9 0 a. m.	23.855	65	35	23.782	35	35	100	S. W.	18	1.62		Stratus	4-4	Hidden						Cloudy.
Base		27.219	63	48	27.120	48	47	92.5	W.	2	.02		Stratus	1-4	Cirrus	3-4	W.				Cloudy.
Summit	10 0 a. m.	23.835	66	35	23.760	35	35	100	S. W.	38	7.22		Stratus	4-4	Hidden						Cloudy.
Base		27.220	64	52.5	27.124	53	50	79.8	S. E.	4	.08		Stratus	3-4	Cirrus	1-4	S. W.				Cloudy.
Summit	11 0 a. m.	23.820	65	36	23.747	36	36	100	S.	36	6.48		Stratus	4-4	Hidden						Cloudy.
Base		27.214	64	47	27.117	48	46	85	W.	6	.18		Stratus	4-4	Hidden						Threatening.
Summit	12 0 m	23.788	60	37	23.725	37	37	100	S.	30	4.50		Stratus	4-4	Hidden			10.11 a. m.	11.16	Blank	Cloudy.
Base		27.191	64	55	27.095	56	52	74.7	S. E.	6	.18		Stratus	4-4	Hidden						Threatening.
Summit	1 0 p. m.	23.763	59	37	23.703	37	37	100	S.	24	2.88		Stratus	4-4	Hidden						Cloudy.
Base		27.176	64	56	27.080	57	53	75.2	E.	8	.32		Stratus	4-4	Hidden						Cloudy.
Summit	2 0 p. m.	23.755	65	38	23.682	38	38	100.	S.	28	3.92		Stratus	4-4	Hidden						Cloudy.
Base		27.150	65	59	27.052	59	55	76.1	S. E.	8	.32		Stratus	4-4	Hidden						Cloudy.
Summit	3 0 p. m.	23.710	64	35	23.640	35	35	100	S.	36	6.48		Nimbus	4-4	Hidden			2.47 p. m.			Heavy rain.
Base		27.108	62	51	27.017	51	48	79	S. E.	8	.32		Nimbus	4-4	Hidden			2.20 p. m.			Light rain.
Summit	4 0 p. m.	23.715	63	36	23.648	36	36	100	S.	34	5.78		Nimbus	4-4	Hidden						Ligh rain.
Base		27.100	59	45	27.016	46	45	92.1	S. E.	2	.02		Nimbus	4-4	Hidden						Threatening.
Summit	4 57 p. m.	23.731	65	37	23.659	37	37	100	S.	36	6.48		Nimbus	4-4	Hidden					.56	Heavy rain.
Base		27.100	57	42	27.021	42	41.5	95.6	S. E.	2	.02		Nimbus	4-4	Hidden					.30	Heavy rain.
Summit	6 0 p. m.	23.724	61	35	23.661	35	35	100	S.	26	3.38		Nimbus	4-4	Hidden						Heavy rain.
Base		27.090	56	43	27.014	44	43	87.8	S. E.	4	.18		Nimbus	4-4	Hidden						Light rain.
Summit	7 0 p. m.	23.710	60	35	23.649	35	35	100	S.	12	.72		Nimbus	4-4	Hidden						Light rain.
Base		27.087	57	42	27.008	42	41.5	95.6	N. W.	1	.01		Nimbus	4-4	Hidden						Light rain.
Summit	8 0 p. m.	23.695	59	34	23.636	34	34	100	S.	16	1.28		Nimbus	4-4	Hidden						Light rain.
Base		27.060	56	42	26.984	42	41.5	95.6	0	0	0		Nimbus	4 4	Hidden						Light rain.
Summit	9 0 p. m.	23.680	59	34	23.621	34	34	100	S.	12	.72		Nimbus	4-4	Hidden						Light rain.
Base		27.040	57	42	26.961	42	41.5	95.6	S. E.	2	.02		Nimbus	4-4	Hidden						Light rain.
Summit	10 0 p. m.	23.670	65	34	23.598	34	34	100	S.	12	.72		Nimbus	4-4	Hidden						Light rain.
Base		27.030	56	41	26.954	42	41	91.4	N. W.	2	.02		Nimbus	4-4	Hidden						Light rain.
Summit	11 22 p. m.	23.650	64	35	23.580	35	35	100	S.	8	.32		Nimbus	4-4	Hidden					.32	Light rain.
Base		27.108	58	40	26.927	41	39.5	86.7	N.	2	.02		Nimbus	4-4	Hidden					.67	Light rain.
Summit	12 0 mid-night.	23.635	62	35	23.570	35	34	90	S.	6	.18		Stratus	4-4	Hidden				11.30 p. m.	Blank	Cloudy,
Base		27.000	56	40	26.924	40	39.5	95.5	N.	2	.02		Nimbus	4-4	Hidden						Light rain.

Meteorological record for May 12, 1873.

Summit	1 0 a. m.	23.610	61	33	23.547	33	32	89	S.	1	.01		Stratus	4-4	Hidden						Cloudy.
Base		26.978	56	40	26.902	40	39.5	95.4	N.	4	.08		Nimbus	4-4	Hidden						Light rain.
Summit	2 0 a. m.	23.591	62	32	23.526	32	31	89	S.	3	.04		Stratus	4-4	Hidden						Cloudy.
Base		26.955	58	39	26.874	39	38.5	95.3	N.	4	.08		Nimbus	4-4	Hidden						Light rain.
Summit	3 0 a. m.	23.560	62	32	23.495	32	31	89	S.	4	.08		Nimbus	4-4	Hidden			2 40 a. m.			Light rain.
Base		26.948	56.5	39	26.871	39	38.5	95.3	N.	4	.08		Nimbus	4-4	Hidden						Light rain.
Summit	4 0 a. m.	23.548	59	32	23.489	32	31	89	S.	6	.18		Nimbus	4-4	Hidden						Light rain.
Base		26.940	58	39	26.859	39	38	97	N.	4	.08		Nimbus	4 4	Hidden						Light rain.
Summit	5 0 a. m.	23.510	52	32	23.466	32	31	89	S.	10	.50		Nimbus	4-4	Hidden						Light rain.
Base		26.939	58.5	39.5	26.857	39.5	39	95.4	N.	4	.08		Nimbus	4-4	Hidden						Light rain.

Meteorological record for May 12, 1873—Continued.

(Hourly observations.)

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer-readings corrected for temperature and instrumental error only.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.			WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.	Relative humidity.	Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commenc'd.	Ended.		
Summit	6 0 a. m.	23.500	56	33	23.447	32	31	89	N.	16	1.28		Nimbus	4-4	Hidden						Sleeting.
Base		26.945	57	39	26.866	39	38.5	95.3	N.	1	.01		Nimbus	4 4	Hidden						Light rain.
Summit	7 0 a. m.	23.502	56	32	23.449	32	31	89	N.	30	4.50		Nimbus	4-4	Hidden						Sleeting.
Base		26.953	57	41	26.874	41	40	91.2	0	0	0		Nimbus		Hidden						Light rain.
Summit	7 57 a. m.	23.510	57	32	23.455	32	31	89	N.	22	2.42		Nimbus	4-4	Hidden					.07	Sleeting.
Base		26.967	60	42	26.881	42	41	91.4	W.	1	.01		Nimbus	4-4	Hidden					.69	Light rain.
Summit	9 0 a. m.	23.521	54	32	23.475	32	31	89	N.	26	3.38		Stratus	4-4	Hidden				8 12 a. m.	Bl'k.	Cloudy.
Base		26.959	59	43	26.875	43	42	91.6	S. E.	2	.02		Nimbus	4-4	Hidden						Light rain.—
Summit	10 0 a. m.	23.508	50	32	23.468	32	31	89	N.	20	2.00		Stratus	4-4	Hidden						Cloudy.
Base		26.960	58	41	26.870	42	41	91.4	E.	4	.08		Nimbus	4-4	Hidden						Light rain.
Summit	11 0 a. m.	23.500	56	32	23.447	32	31	89	N.	18	1.62		Stratus	4-4	Hidden						Cloudy.
Base		26.968	59.5	42	26.884	43	41.5	87.4	N. W.	4	.08		Nimbus	4-4	Hidden				10 45 a. m.		Cloudy.
Summit	12 0 m.	23.500	56	32	23.447	32	31	89	N.	30	4.50		Stratus	4-4	Hidden						Cloudy.
Base		26.958	59	47	26.874	47	44	77.2	E.	2	.02		Stratus	4-4	Hidden						Cloudy.
Summit	1 0 p. m.	23.510	55	32	23.459	32	31	89	N.	34	5.78		Stratus	4-4	Hidden						Cloudy.
Base		26.966	62	48	26.869	48	44	70.4	N.	2	.02		Stratus	3-4	Hidden						Clearing.
Summit	2 0 p. m.	23.484	50	32	23.414	32	31	89	N.	31	4.80		Stratus	4-4	Hidden						Cloudy.
Base		26.959	64	48	26.863	48.5	44	67	N.	4	.08		Stratus	2-4	Cumulus	1-4	N. W.				Clearing.
Summit	3 0 p. m.	23.490	63	32	23.423	32	31	89	N.	36	6.48		Stratus	4-4	Hidden						Cloudy.
Base		26.952	64	50	26.856	50	45	64.6	N.	8	.32		Stratus	2-4	Cumulus	1-4	N. W.				Clearing.
Summit	4 0 p. m.	23.470	58	32	23.413	32	31	89	N. W.	38	7.22		0	0	Cumulus	2-4	N. W.				Fair.
Base		26.951	63	49	26.861	49	43	57.2	N. W.	6	.18		Stratus	3-4	0	0	0				Cloudy.
Summit	4 57 p. m.	23.474	53	31	23.427	31	30	89	N. W.	40	8.00		0	0	Cumulus	3-4	N. W.				Fair.
Base		26.960	62	50	26.869	50	43.5	54.8	N. W.	8	.32		Stratus	2-4	Cirrus	1-4	N W.			.07	Fair.
Summit	6 0 p. m.	23.475	53	32	23.428	32	31	89	N. W.	44	9.68		0	0	Cumulus	3-4	N. W.				Fair.
Base		26.970	61	46	26.882	46	41.5	65.3	N. W.	4	.08		Stratus	1-4	Cirrus	1-4	N. W.				Fair.
Summit	7 0 p. m.	23.495	50	32	23.455	32	31	89	N. W.	30	4.50		Stratus	4-4	Hidden						Cloudy.
Base		26.978	58	43	26.897	43	39	66.9	S. W.	4	.08		Stratus	3-4	0	0	0				Fair.
Summit	8 0 p. m.	23.500	51	32	23.458	32	31	89	N. W.	42	8.82		Stratus	4-4	Hidden						Cloudy.
Base		26.990	57	38	26.911	38	36	81.1	N.	4	.08		Stratus	1-4	0	0	0				Fair.
Summit	9 0 p. m.	23.498	56	31	23.445	31	30	89	N. W.	50	12.50		Stra'us	4-4	Hidden						Cloudy.
Base		26.992	57	38	26.913	39	36.5	77	N.	4	.08		Stratus	1-4	Cirrus	1-4	N. W.				Fair.
Summit	10 0 p. m.	23.510	58	29	23.453	29	28	89	N. W.	52	13.52		Stratus	4-4	Hidden						Cloudy.
Base		26.990	54	35	26.918	36	34	80.2	N.	4	.08		Stratus	1-4	Cirrus	1-4	N. W.				Fair.

Summit	11 22 p. m.	23.522	59	29	23.463	29	28	89	N. W.	56	15.68	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		26.990	52	35	26.923	35	34	80.8	E.	4	.08	....	Stratus	1-4	Cirrus	1-4	N. W.	....	....	....	Fair.
Summit	12 0 midnight.	23.524	64	29	23.454	29	28	89	N. W.	54	14.58	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		26.982	52	35	26.915	35	34	89.8	E.	4	.08	....	Stratus	1-4	Cirrus	1-4	W.	....	....	....	Fair.

Meteorological record for May 13, 1873.

Summit	1 0 a. m.	23.505	58	28	23.448	28	27	88	N. W.	48	11.52	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		26.975	53	35.5	26.916	35.5	34	84.9	E.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	2 0 a. m.	23.515	58	27	23.458	27	26	88	W.	43	9.24	....	Stratus	1-4	0	0	0	....	....	....	Fair.
Base		26.960	53	34	26.891	34	33	89.5	E.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	3 0 a. m.	23.500	55	28	23.449	28	27	88	W.	40	8.00	...	Stratus	1-4	0	0	0	....	....	....	Fair.
Base		26.940	52	35	26.873	35	33	79.7	E.	8	.32	....	0	0	0	0	0	....	....	....	Clear.
Summit	4 0 a. m.	23.485	56	28	23.432	28	27	88	W.	38	7.22	....	Stratus	1-4	0	0	0	....	....	....	Fair.
Base		26.938	51	34	26.874	34	31	71.2	E.	8	.32	....	0	0	0	0	0	....	....	....	Clear.
Summit	5 0 a. m.	23.480	53	29	23.433	29	28	89	W.	36	6.48	....	Stratus	1-4	0	0	0	....	....	....	Fair.
Base		26.930	52	34	26.863	34	31	71.2	E.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	6 0 a. m.	23.483	50	29	23.443	29	28	89	W.	31	4.80	....	Stratus	1-4	Cirrus	1-4	W.	....	....	....	Fair.
Base		26.918	52	37	26.851	37	34	94.8	E.	4	.08	....	Stratus	1-4	0	0	0	....	....	....	Clear.
Summit	7 0 a. m.	23.485	62	30	23.420	30	29	89	W.	36	6.48	....	Stratus	2-4	Cirrus	1-4	W.	....	....	....	Fair.
Base		26.878	52	45	26.811	45	39	53.3	N. E.	4	.08	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	7 57 a. m.	23.485	53	29	23.418	29	28	89	W.	44	9.68	....	Stratus	1-4	Cumulus	2-4	W.	....	....	....	Fair.
Base		26.880	61	46	26.792	46	39	47.1	S.	4	.08	...	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	9 0 a. m.	23.450	57	31	23.395	31	29	79	W.	54	14.58	....	Stratus	2-4	Cirro-cum.	1-4	W.	....	....	....	Fair.
Base		26.850	66	50	26.750	51	42	39.9	S. E.	10	.50	....	Stratus	3-4	Hidden	....	....	....	....	....	Cloudy.
Summit	10 0 a. m.	23.435	58	32	23.378	32	30	79	W.	50	12.50	....	Stratus	3-4	Hidden	....	....	....	....	....	Fair.
Base		26.841	66	51	26.741	52	45	53.5	S. E.	8	.32	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	11 0 a. m.	23.410	54	32	23.361	32	31	89	W.	56	15.68	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		26.821	68	48	26.716	48	44	70.4	S. E.	6	.18	....	Nimbus	4-4	Hidden	....	....	10.25 a. m.	....	....	Light rain.
Summit	12 0 m.	23.389	58	33	23.332	33	31	79	W.	52	13.52	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		26.778	65	50	26.680	51	46	65.3	S. E.	4	.08	....	Stratus	3-4	0	0	0	....	11.40 a. m.	....	Cloudy.
Summit	1 0 p. m.	23.368	66	34	23.294	34	33	90	W.	42	8.82	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		26.760	64	52	26.664	52	47	66	S. E.	12	.72	....	Stratus	4-4	Hidden	....	....	....	....	....	Threatening.
Summit	2 0 p. m.	23.340	57	32	23.285	32	31	89	N. W.	36	6.48	...	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		26.741	61	47	26.654	47	44	76.7	S. E.	2	.02	....	Nimbus	4-4	Hidden	....	....	1.45 p. m.	....	....	Light rain.
Summit	3 0 p. m.	23.303	59	32	23.244	32	31	89	N. W.	40	8.00	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		26.747	63	48	26.655	48	46	85	S.	2	.02	....	Stratus	3-4	Hidden	....	....	....	2.50 p. m.	....	Clearing.
Summit	4 0 p. m.	23.280	54	32	23.232	32	31	89	N. W.	44	9.68	....	Stratus	4-4	Hidden	....	....	....	....	....	Threatening.
Base		26.773	61	42	26.685	43	41.5	87.4	N. W.	8	.32	....	Nimbus	4-4	Hidden	....	....	3.25 p. m.	....	....	Light rain.
Summit	4 57 p. m.	23.225	53	31	23.180	31	31	100	N. W.	51	13.00	....	Stratus	4-4	Hidden	....	....	....	....	....	Threatening.
Base		26.799	57	39	26.720	39	37	81.6	N. W.	8	.32	....	Stratus	4-4	Hidden	....	....	....	4.30 p. m.	.05	Cloudy.
Summit	6 0 p. m.	23.190	52	31	23.147	31	31	100	N. W.	46	10.58	....	Stratus	4-4	Hidden	....	....	....	....	....	Threatening.
Base		26.818	54	38	26.746	38	36	81.1	S. W.	8	.32	....	Stratus	3-4	0	0	0	....	....	....	Clearing.
Summit	7 0 p. m.	23.200	51	29	23.159	29	28	89	N. W.	30	4.50	....	Stratus	4-4	Hidden	....	....	....	....	....	Threatening.
Base		26.820	52	35	26.750	35	32	69.8	N. W.	8	.32	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	8 0 p. m.	23.202	53	29	23.156	29	28	89	N. W.	36	6.48	....	Stratus	4-4	Hidden	....	....	....	....	....	Threatening.
Base		26.840	51	33	26.776	33	32	89.3	S. W.	8	.32	....	Stratus	3-4	0	0	0	....	....	....	Fair.
Summit	9 0 p. m.	23.245	52	28	23.202	28	27	88	N. W.	47	11.04	....	Stratus	4-4	Hidden	....	....	....	....	....	Threatening.
Base		26.848	50	32	26.786	32	31	71	S. E.	4	.08	....	Stratus	2-4	0	0	0	....	....	....	Fair.

Meteorological record for May 13, 1873—Continued.

(Hourly observations.)

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer-readings corrected for temperature and instrumental error only.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from —.)	Commen'd.	Ended.		
Summit	10 0 p. m.	23. 240	53	27	23. 194	27	26	88	N. W.	53	14. 04	....	Nimbus ..	4-4	Hidden ...	.....	....	9.20 p. m	....	....	Sleeting.
Base ...		26. 849	47	31	26. 794	32	30	79. 4	N. W.	4	. 08	...	Stratus ...	2-4	0	0	0	—	....	....	Fair.
Summit	11 22 p. m.	23. 315	55	27	23. 264	27	26	88	N. W.	48	11. 52	....	Nimbus...	4-4	Hidden ...	.....	....	—	11.20 p. m	. 04	Sleeting.
Base ...		26. 849	47	32	26. 794	32	30	79. 4	N. W.	4	. 08	....	Stratus ...	4-4	Hidden ...	.....	....	....	....	....	Cloudy.
Summit	12 0 midnight.	23. 320	54	26	23. 272	26	25	88	N. W.	44	9. 68	....	Stratus ...	4-4	Hidden ...	.....	....	....	....	....	Cloudy.
Base ...		26. 850	47	32	26. 795	32	30	79. 4	N. W.	8	. 32	....	Stratus ...	4-4	Hidden ...	.....	....	....	....	....	Cloudy.

Meteorological record for May 14, 1873.

Place of observation.	Time of observation.	Barometer.	Attached.	Exposed.	Corrected barometer.	Dry bulb.	Wet bulb.	Relative humidity.	Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Lower clouds, kind.	Amount.	Upper clouds, kind.	Amount.	Direction.	Commen'd.	Ended.	Amount of rain or melted snow.	Remarks.
Summit	1 0 a. m.	23. 325	57	26	23. 270	26	25	88	N. W.	40	8. 00	....	Stratus ...	4-4	Hidden....	.....	....	....	....	....	Cloudy.
Base ..		26. 848	46	32	26. 796	32	30	79. 4	N. W.	12	. 72	....	Stratus ...	4-4	Hidden....	.....	....	....	....	....	Cloudy.
Summit	2 0 a. m.	23. 350	59	26	23. 291	26	25	88	W.	48	11. 52	....	Stratus ...	4-4	Hidden....	.....	....	....	....	....	Cloudy.
Base ..		26. 855	47	31	26. 800	31	29	78. 8	N. W.	12	. 72	....	Stratus ...	4-4	Hidden....	.....	....	....	....	....	Cloudy.
Summit	3 0 a. m.	23. 350	58	25	23. 293	25	24	88	W.	52	13. 52	....	Stratus ...	4-4	Hidden....	.....	....	....	....	....	Cloudy.
Base ..		26. 870	48	30	26. 813	30	29	88. 8	N. W.	4	. 08	....	Stratus ...	4-4	Hidden....	.....	....	....	....	....	Cloudy.
Summit	4 0 a. m.	23. 340	60	25	23. 279	25	24	88	W.	60	18. 00	....	Stratus ...	4-4	Hidden ...	.....	....	....	....	....	Cloudy.
Base ...		26. 865	47	30	26. 810	30	28	78. 2	N. W.	4	. 08	....	Stratus ...	4-4	Hidden....	.....	....	....	....	....	Cloudy.
Summit	5 0 a. m.	23. 295	54	25	23. 246	25	24	88	W.	54	14. 58	...	Stratus ...	4-4	Hidden....	.....	....	....	....	....	Cloudy.
Base ..		26. 868	46	30	26. 816	30	28	78. 2	W.	8	. 32	....	Nimbus...	4.4	Hidden....	.....	....	4 50 a. m.	....	....	Light snow.
Summit	6 0 a. m	23. 300	54	24	23. 251	24	23	87	W.	40	8. 00	....	Stratus ...	4-4	Hidden....	.....	....	....	....	....	Cloudy.
Base ...		26. 870	46	30	26. 818	30	28	78. 2	N. W.	4	. 08	....	Nimbus...	4-4	Hidden....	.....	....	....	....	....	Light snow.
Summit	7 0 a. m.	23. 285	55	25	23. 231	25	24	88	W.	60	18. 00	....	Stratus ...	4-4	Hidden....	.....	....	....	....	....	Cloudy.
Base ...		26. 868	46	31	26. 816	31	29	78. 8	W.	12	. 72	....	Nimbus...	4-4	Hidden....	.....	....	....	....	....	Light snow.
Summit	7 57 a. m.	23. 285	52	23	23. 241	23	22	86	W.	64	20. 48	....	Stratus...	4-4	Hidden....	.....	....	....	....	....	Cloudy.
Base ...		26. 870	50	32	26. 808	32	29	78. 8	W.	1	. 01	....	Stratus ...	4-4	Hidden....	.....	....	....	7 15 a. m.	Blk ...	Cloudy.
Summit	9 0 a. m.	23. 264	57	22	23. 213	22	21	85	W.	58	16. 82	....	Stratus ...	4-4	Hidden....	.....	....	....	....	....	Cloudy.
Base ...		26. 863	51	33	26. 799	34	32	79. 2	W.	12	. 72	....	Stratus ...	2 4	Cumulus ..	2-4	N. W.	....	....	....	Cloudy.
Summit	10 0 a. m.	23. 282	57	23	23. 227	23	22	86	W.	50	12. 50	....	Stratus ...	4-4	Hidden....	.....	....	....	....	....	Cloudy.
Base ...		26. 861	49	34	26. 801	34	30	61. 7	W.	12	. 72	....	Stratus ...	4-4	Hidden....	.....	....	....	....	....	Cloudy.
Summit	11 0 a. m.	23. 330	57	24	23. 275	24	23	87	W.	46	10. 58	....	Stratus ...	4-4	Hidden....	.....	....	....	....	....	Cloudy.
Base ...		26. 849	48	33	26. 792	33. 5	30	65. 9	W.	10	. 50	...	Nimbus...	4-4	Hidden....	.....	....	10 30 a. m.	....	....	Light snow.

Summit	12 0 m.	23.315	55	23	23.264	23	22	86	W.	30	4.50		Stratus	4-4	Hidden						Cloudy.
Base		26.850	51	34	26.786	35	31	62.8	W.	12	.72		Nimbus	4-4	Hidden				11 25 a. m.		Light snow.
Summit	1 0 p. m.	23.306	60	23	23.245	23	22	86	W.	36	6.48		Stratus	4-4	Hidden						Cloudy.
Base		26.848	50	33.5	26.786	34	31	71.2	W.	10	.50		Stratus	4-4	Hidden			11 25 a. m.	11 50 a. m.		Cloudy.
Summit	2 0 p. m.	23.288	60	23	23.227	23	22	86	W.	40	8.00		Stratus	4-4	Hidden						Cloudy.
Base		26.841	50	33	26.779	34	32	79.2	W.	8	.32		Stratus	4-4	Hidden						Cloudy.
Summit	3 0 p. m.	23.290	55	22	23.239	22	21	85	W.	38	7.22		Stratus	4-4	Hidden						Cloudy.
Base		26.841	49	32.5	26.781	33	29.5	65.4	N. W.	10	.50		Stratus	4-4	Hidden			2 05 p. m.	2 45 p. m.		Cloudy.
Summit	4 0 p. m.	23.300	55	23	23.249	23	22	86	W.	37	6.84		Stratus	4-4	Hidden						Cloudy.
Base		26.840	49	32	26.780	33	30.5	66.4	W.	8	.32		Nimbus	4-4	Hidden						Light snow.
Summit	4 57 p. m.	23.320	61	22	23.257	22	21	85	W.	44	9.68		Nimbus	4-4	Hidden			4 15 p. m.		.01	Light snow.
Base		26.850	48	32	26.793	32	30	79.4	N. W.	8	.32		Nimbus	4-4	Hidden			3 55 p. m.			Light snow.
Summit	6 0 p. m.	23.275	55	22	23.224	22	21	85	W.	48	11.52		Nimbus	4-4	Hidden						Light snow.
Base		26.851	51	30	26.787	31	29	78.8	N. W.	8	.32		Nimbus	4-4	Hidden						Light snow.
Summit	7 0 p. m.	23.238	51	22	23.197	22	21	85	W.	32	5.12		Nimbus	4-4	Hidden						Light snow
Base		26.839	47	30	26.784	30	29	89	N.	8	.32		Nimbus	4-4	Hidden						Light snow.
Summit	8 0 p. m.	23.255	54	21	23.208	21	20	85	W.	38	7.22		Nimbus	4-4	Hidden						Heavy snow.
Base		26.840	47	27	26.785	27	26	88	N. W.	12	.72		Nimbus	4-4	Hidden						Light snow.
Summit	9 0 p. m.	23.240	53	22	23.195	22	21	85	W.	37	6.84		Nimbus	4-4	Hidden						Heavy snow.
Base		26.838	45	27	26.788	28	27	88.3	W.	4	.08		Nimbus	4-4	Hidden						Threatening.
Summit	10 0 p. m.	23.215	56	22	23.163	22	21	85	W.	50	12.50		Nimbus	4-4	Hidden						Heavy snow.
Base		26.829	45	27.5	26.779	28	27	88.3	N. W.	8	.32		Stratus	4-4	Hidden						Cloudy.
Summit	11 22 p. m.	23.185	54	19	23.138	19	18	84	N. W.	60	18.00		Nimbus	4-4	Hidden					.50	Heavy snow.
Base		26.811	42	28	26.768	28.5	27	82.9	N. W.	4	.08		Stratus	4-4	Hidden				8 40 p. m.	.04	Cloudy.
Summit	12 0 midnight.	23.167	57	19	23.113	19	18	84	N. W.	66	21.78		Nimbus	4-4	Hidden						Heavy snow.
Base		26.810	42	28	26.767	28	27	88.3	N. W.	8	.32		Stratus	4-4	Hidden						Cloudy.

Meteorological record for May 15, 1873.

Summit	1 0 a. m.	23.123	56	19	23.071	19	18	84	N. W.	54	14.58		Nimbus	4-4	Hidden						Heavy snow.
Base		26.805	42	28	26.762	28	26	76.8	N. W.	16	1.28		Stratus	4-4	Hidden						Cloudy.
Summit	2 0 a. m.	23.155	53	19	23.110	19	18	84	N. W.	60	18.00		Nimbus	4-4	Hidden						Heavy snow.
Base		26.805	42	28	26.762	28	26	76.8	N. W.	8	.32		Stratus	4-4	Hidden						Cloudy.
Summit	3 0 a. m.	23.163	53	20	23.118	20	19	85	N. W.	58	16.82		Nimbus	4-4	Hidden						Heavy snow.
Base		26.805	40	26	26.767	26	25	87.6	N.	8	.32		Stratus	4-4	Hidden						Cloudy.
Summit	4 0 a. m.	23.170	54	20	23.123	20	19	85	N. W.	66	21.78		Nimbus	4-4	Hidden						Heavy snow.
Base		26.825	39	26	26.790	26	25	87.6	N. W.	8	.32		Stratus	4-4	Hidden						Cloudy.
Summit	5 0 a. m.	23.195	52	21	23.152	21	20	85	N. W.	72	25.92		Stratus	4-4	Hidden				4.10 a. m.		Cloudy.
Base		26.840	40	26	26.802	26	25	87.6	N. W.	8	.32		Stratus	4-4	Hidden						Cloudy.
Summit	6 0 a. m.	23.215	52	21	23.172	21	20	85	N. W.	60	18.00		Stratus	4-4	Hidden						Cloudy.
Base		26.855	39	26	26.820	26	25	87.6	N. W.	4	.08		Stratus	4-4	Hidden						Cloudy.
Summit	7 0 a. m.	23.240	53	20	23.195	20	19	85	N. W.	50	12.50		Stratus	4-4	Hidden						Cloudy.
Base		26.855	46	27	26.803	27.5	26	82.4	N. E.	4	.08		Nimbus	4-4	Hidden						Misting.
Summit	7 57 a. m.	23.270	55	22	23.219	22	21	85	N. W.	72	25.92		Stratus	4-4	Hidden			6.45 a. m.		.25	Clearing.
Base		26.915	51	29	26.851	29	28	88.7	N.	4	.08		Nimbus	4-4	Hidden						Light snow.
Summit	9 0 a. m.	23.375	52	22	23.331	22	21	85	N. W.	65	21.12		Stratus	4-4	Hidden						Clearing.
Base		26.929	51	30	26.865	31.5	30	84.3	N. W.	4	.08		Stratus	4-4	Hidden						Cloudy.

Meteorological record for May 15, 1873—Continued.

(Hourly observations.)

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer-readings corrected for temperature and instrumental error only.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		
Summit	10 0 a. m.	23.380	52	22	23.336	22	21	85	N. W.	59	17.40	...	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Clearing.
Base ...		26.939	52	33	26.872	34	32	79.2	N. W.	4	.08	...	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Cloudy.
Summit	11 0 a. m.	23.429	56	24	23.376	24	23	87	N. W.	40	8.00	...	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Clearing.
Base ...		26.970	53	33	26.901	34	32	79.2	W.	3	.04	...	Nimbus ...	4-4	Hidden ...	......	......	......	......	......	Light snow.
Summit	12 0 m...	23.452	61	24	23.389	24	23	87	N. W.	35	6.12	...	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Clearing.
Base ...		26.983	55	36	26.909	37	33	61.9	N. E.	2	.02	...	Stratus ...	4-4	Hidden ...	......	......	......	11.30 a. m.	......	Cloudy.
Summit	1 0 p. m.	23.466	63	25	23.399	25	24	87	N. W.	42	8.82	...	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Clearing.
Base ..		26.972	52	39	26.905	39	36.5	77	N. W.	8	.32	...	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Cloudy.
Summit	2 0 p. m.	23.492	61	25	23.429	25	24	87	W.	32	5.12	...	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Clearing.
Base ..		26.993	55.5	41	26.924	41	38	73.8	N. W.	4	.08	...	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Cloudy.
Summit	3 0 p. m.	23.519	61	25	23.456	25	24	87	W.	20	2.00	...	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Clearing.
Base ..		27.002	55	39	26.928	40	38	82	N. W.	4	.08	...	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Cloudy.
Summit	4 0 p. m.	23.530	61	25	23.465	25	24	87	W.	18	1.62	...	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Clearing.
Base ..		27.003	53	38	26.931	39	36	72.6	N. W.	4	.08	...	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Cloudy.
Summit	4 57 p. m.	23.560	63	25	23.493	25	24	87	W.	12	.72	...	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Clearing.
Base ..		27.030	55	37	26.956	37	35	80.7	S. W.	4	.08	...	Stratus ...	4-4	Hidden ...	......	......	......	......	Blk ...	Cloudy.
Summit	6 0 p. m.	23.560	57	25	23.505	25	24	87	W.	20	2.00	...	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Clearing.
Base ...		27.049	57	36	26.970	36	34.5	85.1	W.	4	.08	...	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Cloudy.
Summit	7 0 p. m.	23.568	55	25	23.517	25	24	87	W.	16	1.28	...	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Cloudy.
Base ..		27.064	54	35	26.997	35.5	34	84.9	0	0	0	...	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Cloudy.
Summit	8 0 p. m.	23.600	55	24	23.549	24	23	87	W.	19	1.80	...	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Cloudy.
Base ..		27.070	54	35	26.998	35	33.5	84.7	W.	2	.02	...	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Cloudy.
Summit	9 0 p. m.	23.600	61	24	23.537	24	23	87	W.	20	2.00	...	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Cloudy.
Base ..		27.070	54	34	26.998	35	33.5	84.7	N.	2	.02	...	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Cloudy.
Summit	10 0 p. m.	23.600	58	24	23.543	24	23	87	W.	22	2.42	...	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Cloudy.
Base .		27.060	54	34	26.988	34	33	89.5	N.	4	.08	...	Stratus ...	2-4	0	0	0	......	......	......	Fair.
Summit	11 22 p. m.	23.640	67	24	23.563	24	23	87	W.	18	1.62	...	Stratus ...	1-4	0	0	0	......	......	......	Fair.
Base ..		27.065	53	32	26.996	32	31	89.6	N.	4	.08	...	0	0	Cirrus	1-4	0	......	......	......	Clear.
Summit	12 0 mid't	23.640	67	23	23.563	23	22	86	W.	10	.50	...	Stratus ...	1-4	0	0	0	......	......	......	Fair.
Base ...		27.068	53	32	26.999	32	31	89.6	N.	4	.08	...	0	0	Cirrus	1-4	N. E.	......	......	......	Clear.

Meteorological record for May 16, 1873.

Summit	1 0 a. m.	23. 640	65	24	23. 568	24	23	87	N. W.	12	. 72	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27. 060	52	33	26. 993	33	32	89. 3	N.	4	. 08	....	Stratus	3-4	Cirrus	1-4	N.	....	....	....	Cloudy.
Summit	2 0 a. m.	23. 620	63	24	23. 553	24	23	87	N. W.	14	. 98	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27. 050	51	34	26. 986	34	33	89. 5	N.	4	. 08	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	3 0 a. m.	23. 615	65	24	23. 543	24	23	87	N. W.	18	1. 62	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27. 050	52	34	26. 983	34	33	89. 5	N.	1	. 01	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	4 0 a. m.	23. 605	69	24	23. 525	24	23	87	N. W.	16	1. 62	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27. 050	53	33. 5	26. 981	34	33	89. 5	N.	4	. 08	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	5 0 a. m.	23. 595	67	25	23. 519	25	24	88	N. W.	24	2. 88	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27. 050	55	34	26. 976	34	33	89. 5	N.	1	. 01	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	6 0 a. m.	23. 565	60	25	23. 504	26	25	88	N. W.	24	2. 88	....	0	0	Cumulus	3-4	N. W.	....	....	....	Fair.
Base		27. 058	55	35	26. 984	35	34	89. 5	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	7 0 a. m.	23. 560	56	26	23. 507	26	25	88	N. W.	22	2. 42	....	Cumulus	1-4	Cumulus	2-4	N. W.	....	....	....	Fair.
Base		27. 058	53	38	26. 989	38	36	81. 1	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	7 57 a. m.	23. 600	58	26	23. 513	26	25	88	N. W.	20	2. 00	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27. 070	56	40	26. 994	40	38	82	W.	4	. 08	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	9 0 a. m.	23. 605	61	27	23. 542	27	26	88	N. W.	24	2. 88	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27. 075	57	42	26. 996	41. 5	39. 5	82. 6	S.	2	. 02	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	10 0 a. m.	23. 600	61	27	23. 537	27	26	88	N. W.	14	. 98	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27. 073	57	44	26. 994	44	41	75. 6	N. W.	4	. 08	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	11 0 a. m.	23. 630	60	28	23. 569	28	27	88	W.	12	. 72	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27. 077	59	44	26. 993	44	40	67. 7	N.	4	. 08	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	12 0 m	23. 620	61	28	23. 557	28	27	88	W.	10	. 50	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27. 080	59	43	26. 996	44	42	83. 6	N.	4	. 08	....	Nimbus	4-4	Hidden	....	....	11.10 a. m.	....	....	Light rain.
Summit	1 0 p. m.	23. 628	59	29	23. 569	29	28	89	W.	13	. 84	....	Stratus	4-4	Hidden	....	....	....	12.40 p. m.	....	Cloudy.
Base		27. 07[illegible]	58. 5	46	26. 996	46	42	69. 1	W.	4	. 08	....	Nimbus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	2 0 p. m.	23. 630	57	29	23. 575	29	28	89	W.	22	2. 42	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27. 077	57	48	26. 998	48	42	56. 3	N. W.	8	. 32	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	3 0 p. m.	23. 625	64	29	23. 555	29	28	89	W.	14	. 98	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27. 075	56	46	26. 999	46	45	92. 1	N. W.	4	. 08	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	4 0 p. m.	23. 635	60	28	23. 573	28	27	88	W.	8	. 32	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27. 080	59	46	26. 996	46	41	61. 7	N. W.	4	. 08	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	4 57 p. m.	23. 640	62	28	23. 575	28	27	88	W.	16	1. 28	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27. 082	55	44	27. 008	44	39	59. 7	W.	2	. 02	....	Stratus	4-4	Hidden	....	....	....	....	. 01	Cloudy.
Summit	6 0 p. m.	23. 640	61	28	23. 576	28	27	88	W.	18	1. 62	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27. 098	56	42	27. 022	43	38	58. 7	W.	4	. 08	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	7 0 p. m.	23. 640	61	28	23. 576	28	27	88	W.	17	1. 44	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27. 108	57	40	27. 027	41	37. 5	62. 5	N. W.	2	. 02	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	8 0 p. m.	23. 640	64	28	23. 570	28	27	88	W.	26	3. 38	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27. 108	65	38	27. 034	39	36. 5	77	N. W.	2	. 02	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	9 0 p. m.	23. 663	66	27	23. 580	27	26	88	W.	28	3. 92	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27. 104	64	37	27. 032	37	35	80. 7	N.	4	. 08	....	Stratus	4-3	Hidden	....	....	....	....	....	Cloudy.
Summit	10 0 p. m.	23. 647	64	27	23. 575	27	26	88	W.	36	6. 48	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27. 103	53	37	27. 031	37	35	80. 7	N.	2	. 02	....	Stratus	3-4	0	0	0	....	....	....	Fair.
Summit	11 22 p. m.	23. 622	60	27	23. 561	27	26	88	W.	34	5. 78	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27. 090	62	36	27. 023	37	35	80. 7	N.	2	. 02	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	12 0 midnight.	23. 61[illegible]	62	27	23. 54[illegible]	27	26	88	W.	37	6. 84	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27. 03[illegible]	62	36	27. 023	36	34	80. 9	N.	2	. 02	....	Stratus	3-4	0	0	0	....	....	....	Cloudy.

Meteorological record for May 17, 1873

(Hourly observations.)

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,899.3. Barometer-readings corrected for temperature and instrumental error only.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commenc'd.	Ended.		
Summit	1 0 a. m.	23.605	61	27	23.512	27	26	88	W.	36	6.48	....	Stratus	4-4	Hidden						Cloudy.
Base		27.085	53	36	27.016	36.5	35	85.3	N.	4	.08	....	Stratus	4-4	Hidden						Cloudy.
Summit	2 0 a. m.	23.595	59	27	23.536	27	26	88	W.	32	5.12	....	Stratus	4-4	Hidden						Cloudy.
Base		27.070	52	36	27.003	36.5	35	85.3	N.	1	.01	....	Stratus	4-4	Hidden						Cloudy.
Summit	3 0 a. m.	23.580	58	27	23.523	27	26	88	W.	24	2.88	....	Nimbus	4-4	Hidden			2 50 a.m.			Light snow.
Base		27.063	51	36	26.999	36	35	90	0	0	0	....	Nimbus	4-4	Hidden			2 50 a.m.			Light rain.
Summit	4 0 a. m.	23.595	62	26	23.530	26	25	88	W.	18	1.62	....	Nimbus	4-4	Hidden						Light snow.
Base		27.058	50	36	26.996	36	35	90	0	0	0	....	Nimbus	4-4	Hidden						Light rain.
Summit	5 0 a. m.	23.595	63	25	23.528	25	24	88	W.	22	2.42	....	Nimbus	4-4	Hidden						Light snow.
Base		27.058	51	36	26.994	36	35.5	94.9	W.	4	.08	....	Stratus	4-4	Hidden				4 10 a.m.		Cloudy.
Summit	6 0 a. m.	23.575	60	24	23.514	24	23	87	W.	30	4.50	....	Stratus	4-4	Hidden				5 10 a.m.		Cloudy.
Base		27.060	49	35.5	27.000	36	35	90	W.	4	.08	....	Stratus	4-4	Hidden						Cloudy.
Summit	7 0 a. m.	23.553	58	23	23.496	23	22	86	N. W.	35	6.12	....	Stratus	4 4	Hidden						Cloudy.
Base		27.070	51	36	27.006	37	35	80.7	W.	4	.08	....	Stratus	4-4	Hidden						Cloudy.
Summit	7 57 a. m.	23.539	50	23	23.490	23	22	86	N. W.	32	5.12	....	Stratus	4-4	Hidden					.08	Cloudy.
Base		27.075	51	39	27.011	40	37	73.2	W.	4	.08	....	Stratus	3-4	0	0	0			.04	Cloudy.
Summit	9 0 a. m.	23.452	58	25	23.403	25	24	88	N. W.	28	3.92	....	Stratus	4-4	Hidden						Cloudy.
Base		27.083	50	40	27.021	41	38	73.8	N. W.	6	.18	....	Stratus	4-4	Hidden						Cloudy.
Summit	10 0 a. m.	23.578	57	26	23.523	26	25	88	N. W.	28	3.92	....	Stratus	4-4	Hidden						Cloudy.
Base		27.087	53	41	27.018	42	39	74.4	N. W.	4	.08	....	Stratus	4-4	Hidden						Cloudy.
Summit	11 0 a. m.	23.619	61	25	23.556	25	24	88	N. W.	25	3.12	....	Stratus	4-4	Hidden						Cloudy.
Base		27.085	52	43	27.018	44	40	67.7	N. W.	4	.08	....	Stratus	4-4	Hidden						Cloudy.
Summit	12 0 m.	23.640	61	26	23.577	26	25	88	N. W.	18	1.62	....	Nimbus	4-4	Hidden			11 10 a.m.	11 25 a.m.		Light snow.
Base		27.090	51	41	27.031	41.5	38	69.9	N. W.	6	.18	....	Nimbus	4-4	Hidden			11 20 a.m.			Light rain.
Summit	1 0 p.m.	23.630	64	26	23.560	26	25	88	N. W.	16	1.28	....	Stratus	4-4	Hidden						Cloudy.
Base		27.090	52	45	27.023	45	40.5	64.5	N. W.	6	.18	....	Stratus	4-4	Hidden				12 20 p.m.		Cloudy.
Summit	2 0 p.m.	23.618	64	26	23.549	26	25	88	N. W.	16	1.28	....	Stratus	4-4	Hidden						Cloudy.
Base		27.0	52	43	27.016	44	39.5	63.6	N. W.	4	.08	....	Stratus	4-4	Hidden			1 20 p.m.	1 30 p.m.		Cloudy.
Summit	3 0 p.m.	23.64	68	27	23.562	27	26	88	N. W.	10	.50	....	Stratus	4-4	Hidden						Cloudy.
Base		27.060	55	44	27.010	44	40	67.7	W.	5	.12	....	Nimbus	4-4	Hidden						Light rain.
Summit	4 0 p.m.	23.625	61	26	23.563	26	25	88	N. W.	30	4.50	....	Nimbus	4-4	Hidden			3 20 p.m.			Light snow.
Base		27.099	54	42	27.027	42	40	82.9	N. E.	1	.01	....	Nimbus	4-4	Hidden			3 0 p.m.			Light rain.
Summit		23.636	61	27	23.573	27	26	88	N. W.	24	2.88	....	Stratus	4-4	Hidden				4 30 p.m.	.03	Cloudy.

Summit	6 0 p.m.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	N. W.	[illegible]	[illegible]		Stratus	4-4	Hidden						Cloudy.
Base		27.121	55	43	27.047	43	40	75	N. W.	2	.02		Stratus	1-4	Cirrus	2-4	N.				Fair.
Summit	7 0 p.m.	23.650	66	26	23.576	26	25	88	N. W.	28	3.92		Nimbus	4-4	Hidden			6 03 p.m.			Light snow
Base		27.129	53	41	27.060	42	38	66.1	W.	2	.02		Stratus	4-4	Hidden						Cloudy.
Summit	8 0 p.m.	23.660	70	26	23.578	26	25	88	N. W.	22	2.42		Nimbus	4-4	Hidden						Light snow.
Base		27.139	56	40	27.063	41	37	65.3	W.	4	.08		Stratus	4-4	Hidden						Cloudy.
Summit	9 0 p.m.	23.685	64	26	23.615	26	25	88	N. W.	29	4.20		Nimbus	4-4	Hidden						Light snow.
Base		27.167	56	37	27.091	37	36	90.3	N.	4	.08		Nimbus	4-4	Hidden			9 0 p.m.			Light rain.
Summit	10 0 p.m.	23.680	64	26	23.610	26	25	88	N. W.	25	3.12		Nimbus	4-4	Hidden						Light snow.
Base		27.150	55	34	27.076	35	34	89.8	N.	4	.08		Nimbus	4-4	Hidden				9 04 p.m.		Threatening.
Summit	11 22 p.m.	23.690	69	26	23.610	26	25	88	N. W.	30	4.50		Nimbus	4-4	Hidden					.20	Light snow.
Base		27.150	53	34.5	27.081	35	34	89.8	N. E.	2	.02		Stratus	4-4	Hidden					.08	Cloudy.
Summit	12 midn't	23.688	67	26	23.612	26	25	88	N. W.	26	3.38		Nimbus	4-4	Hidden						Light snow.
Base		27.150	55	35	27.076	35	34.5	94.8	N. E.	2	.02		Stratus	4-4	Hidden						Cloudy.

Meteorological record for May 18, 1873.

Summit	1 0 a. m.	23.658	64	25	23.588	25	24	88	N. W.	24	2.88		Nimbus	4-4	Hidden						Light snow.
Base		27.135	54	35	27.063	36	35	90	0	0	0		Stratus	4-4	Hidden						Cloudy.
Summit	2 0 a. m.	23.670	68	25	23.592	25	24	88	N. W.	28	3.92		Nimbus	4-4	Hidden						Light snow.
Base		27.120	52	35.5	27.053	36	35	90	0	0	0		Nimbus	4-4	Hidden			1 45 a. m.			Light rain.
Summit	3 0 a. m.	23.640	67	25	23.564	25	24	88	N. W.	28	3.92		Nimbus	4-4	Hidden						Light snow.
Base		27.110	51	35.5	27.046	36	35	90	N. E.	4	.08		Nimbus	4-4	Hidden						Light rain.
Summit	4 0 a. m.	23.635	65	26	23.563	26	25	88	N. W.	22	2.42		Nimbus	4-4	Hidden						Light snow.
Base		27.100	49	35	27.040	36	35	90	0	0	0		Nimbus	4-4	Hidden						Light rain.
Summit	5 0 a. m.	23.630	67	26	23.574	26	25	88	N. W.	30	4.50		Nimbus	4-4	Hidden						Light snow.
Base		27.100	50	34	27.038	34	33	89.5	0	0	0		Nimbus	4-4	Hidden						Heavy snow.
Summit	6 0 a. m.	23.620	62	25	23.555	24	24	88	N. W.	25	3.12		Nimbus	4-4	Hidden						Light snow.
Base		27.110	49	34	27.050	34.5	34	94.8	W.	4	.08		Stratus	4-4	Hidden				5 30 a. m.		Cloudy.
Summit	7 0 a. m.	23.620	59	25	23.561	25	24	88	N. W.	24	2.88		Nimbus	4-4	Hidden						Light snow.
Base		27.115	50	33.5	27.053	34	33	89.5	E.	4	.08		Nimbus	4-4	Hidden			6 15 a. m.			Light snow.
Summit	7 57 a. m.	23.611	60	22	23.550	22	21	85	N. W.	28	3.92		Nimbus	4-4	Hidden					.25	Light snow.
Base		27.140	51	36	27.070	36	35	90	W.	1	.01		Stratus	4-4	Hidden				7 20	.36	Cloudy.
Summit	9 0 a. m.	23.655	60	24	23.588	24	23	87	N. W.	30	4.50		Nimbus	4-4	Hidden						Light snow.
Base		27.143	50	37	27.081	37	36	90.3	N. W.	4	.08		Stratus	4-4	Hidden						Cloudy.
Summit	10 0 a. m.	23.650	60	24	23.588	24	23	87	N. W.	26	3.38		Nimbus	4-4	Hidden						Light snow.
Base		27.142	52.5	39	27.074	39	37	81.6	N.	4	.08		Stratus	4-4	Hidden						Cloudy.
Summit	11 0 a. m.	23.684	66	24	23.610	24	23	87	N. W.	20	2.00		Nimbus	4-4	Hidden						Light snow.
Base		27.150	51	39	27.080	39	37	81.6	S. W.	8	.32		Stratus	4-4	Hidden						Cloudy.
Summit	12 0 m	23.699	67	24	23.625	24	23	87	N. W.	18	1.62		Stratus	3-4	Hidden				11 35 a. m.		Clearing.
Base		27.159	51	40	27.097	40.5	37.5	73.5	W.	4	.08		Stratus	4-4	Hidden			11 15 a. m.			Sleeting.
Summit	1 0 p. m.	23.700	63	26	23.632	26	25	88	N. W.	10	.50		Stratus	4-4	Hidden						Cloudy.
Base		27.159	53	43	27.090	44	40.5	71.6	N. W.	4	.08		Stratus	2-4	Cumulus	1-4	N. W.		12 18 p. m		Fair.
Summit	2 0 p. m.	23.690	61	26	23.626	26	25	88	N. W.	22	2.42		0	0	Cumulus	3-4	N. W.				Fair.
Base		27.163	53	43	27.094	44	39	59.7	N. W.	8	.32		Stratus	3-4	0	0	0	1 25 p. m.	1 35 p. m.		Clearing.
Summit	3 0 p. m.	23.680	62	25	23.614	25	24	88	N. W.	16	1.28		Stratus	4-4	Hidden						Cloudy.
Base		27.162	56	45	27.080	45	41.5	72.3	W.	2	.02		Stratus	3-4	0	0	0				Cloudy.
Summit	4 0 p. m.	23.698	64	25	23.627	25	24	88	N. W.	14	.98		Stratus	4-4	Hidden						Cloudy.
Base		27.178	57	42	27.091	42.5	39	70.6	N. W.	8	.32		Stratus	3-4	0	0	0				Cloudy.

Meteorological record for May 17, 1873

(Hourly observations.)

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3. Barometer-readings corrected for temperature and instrumental error only.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'd.	Ended.		
Summit	1 0 a. m.	23.605	61	27	23.542	27	26	88	W.	36	6.48		Stratus	4-4	Hidden						Cloudy.
Base		27.085	53	36	27.016	36.5	35	85.3	N.	4	.08		Stratus	4-4	Hidden						Cloudy.
Summit	2 0 a. m.	23.595	59	27	23.536	27	26	88	W.	32	5.12		Stratus	4-4	Hidden						Cloudy.
Base		27.070	52	36	27.003	36.5	35	85.3	N.	1	.01		Stratus	4-4	Hidden						Cloudy.
Summit	3 0 a. m.	23.580	58	27	23.523	27	26	88	W.	24	2.88		Nimbus	4-4	Hidden			2 50 a.m.			Light snow.
Base		27.063	51	36	26.999	36	35	90	0	0	0		Nimbus	4-4	Hidden			2 50 a.m.			Light rain.
Summit	4 0 a. m.	23.595	62	26	23.530	26	25	88	W.	18	1.62		Nimbus	4-4	Hidden						Light snow.
Base		27.058	50	36	26.996	36	35	90	0	0	0		Nimbus	4-4	Hidden						Light rain.
Summit	5 0 a. m.	23.595	63	25	23.528	25	24	88	W.	22	2.42		Nimbus	4-4	Hidden						Light snow.
Base		27.058	51	36	26.994	36	35.5	94.9	W.	4	.08		Stratus	4-4	Hidden				4 10 a.m.		Cloudy.
Summit	6 0 a. m.	23.575	60	24	23.514	24	23	87	W.	30	4.50		Stratus	4-4	Hidden				5 10 a.m.		Cloudy.
Base		27.060	40	35.5	27.000	36	35	90	W.	4	.08		Stratus	4-4	Hidden						Cloudy.
Summit	7 0 a. m.	23.553	58	23	23.496	23	22	86	N. W.	35	6.12		Stratus	4-4	Hidden						Cloudy.
Base		27.070	51	36	27.006	37	35	80.7	W.	4	.08		Stratus	4-4	Hidden						Cloudy.
Summit	7 57 a. m.	23.539	50	23	23.469	23	22	86	N. W.	32	5.12		Stratus	4-4	Hidden					.08	Cloudy.
Base		27.075	51	39	27.011	40	37	73.2	W.	4	.08		Stratus	3-4	0	0	0			.04	Cloudy.
Summit	9 0 a. m.	23.452	58	25	23.403	25	24	88	N. W.	28	3.92		Stratus	4-4	Hidden						Cloudy.
Base		27.083	50	40	27.021	41	38	73.8	N. W.	6	.18		Stratus	4-4	Hidden						Cloudy.
Summit	10 0 a. m.	23.578	57	26	23.523	26	25	88	N. W.	28	3.92		Stratus	4-4	Hidden						Cloudy.
Base		27.087	53	41	27.018	42	39	74.4	N. W.	4	.08		Stratus	4-4	Hidden						Cloudy.
Summit	11 0 a. m.	23.619	61	25	23.556	25	24	88	N. W.	25	3.12		Stratus	4-4	Hidden						Cloudy.
Base		27.085	52	43	27.018	44	40	67.7	N. W.	4	.08		Stratus	4-4	Hidden						Cloudy.
Summit	12 0 m	23.640	61	26	23.577	26	25	88	N. W.	18	1.62		Nimbus	4-4	Hidden			11 10 a.m.	11 25 a.m.		Light snow.
Base		27.090	51	41	27.031	41.5	38	69.9	N. W.	6	.18		Nimbus	4-4	Hidden			11 20 a.m.			Light rain.
Summit	1 0 p.m.	23.630	64	26	23.560	26	25	88	N. W.	16	1.28		Stratus	4-4	Hidden						Cloudy.
Base		27.090	52	45	27.023	45	40.5	64.5	N. W.	6	.18		Stratus	4-4	Hidden				12 20 p.m.		Cloudy.
Summit	2 0 p.m.	23.618	64	26	23.549	26	25	88	N. W.	16	1.28		Stratus	4-4	Hidden						Cloudy.
Base		27.0	52	43	27.016	44	39.5	63.6	N. W.	4	.08		Stratus	4-4	Hidden			1 20 p.m.	1 30 p.m.		Cloudy.
Summit	3 0 p.m.	23.6[illegible]	68	27	23.562	27	26	88	N. W.	10	.50		Stratus	4-4	Hidden						Cloudy.
Base		27.066	55	44	27.010	44	40	67.7	W.	5	.12		Nimbus	4-4	Hidden						Light rain.
Summit	4 0 p.m.	23.629	61	26	23.565	26	25	88	N. W.	30	4.50		Nimbus	4-4	Hidden			3 20 p.m.			Light snow.
Base		27.099	54	42	27.027	42	40	82.9	N. E.	1	.01		Nimbus	4-4	Hidden			3 0 p.m.			Light rain.
Summit	4 57 p.m.	23.636	61	27	23.573	27	26	88	N. W.	24	2.88		Stratus	4-4	Hidden				4 30 p.m.	.03	Cloudy.
Base		27.121	58	43	27.040	43	41	83.3	N. W.	4	.08		Stratus	2-4	Cirrus	1.4	N. W.		4 10 p.m.	.01	Clearing.

Summit	6 0 p.m.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]						[illegible]
Base...		27.121	55	43	27.047	43	40	75	N. W.	2	.02		Stratus	1-4	Cirrus	2-4	N.				Fair.
Summit	7 0 p.m.	23.650	66	26	23.576	26	25	88	N. W.	28	3.92		Nimbus	4-4	Hidden			6 05 p.m.			Light snow
Base...		27.129	53	41	27.060	42	39	66.1	W.	2	.02		Stratus	4-4	Hidden						Cloudy.
Summit	8 0 p.m.	23.660	70	26	23.578	26	25	88	N. W.	22	2.42		Nimbus	4-4	Hidden						Light snow.
Base...		27.139	56	40	27.063	41	37	65.3	W.	4	.08		Stratus	4-4	Hidden						Cloudy.
Summit	9 0 p.m.	23.685	64	26	23.615	26	25	88	N. W.	29	4.20		Nimbus	4-4	Hidden						Light snow.
Base...		27.107	56	37	27.091	37	36	90.3	N.	4	.08		Nimbus	4-4	Hidden			9 0 p.m.			Light rain.
Summit	10 0 p.m.	23.680	64	26	23.610	26	25	88	N. W.	25	3.12		Nimbus	4-4	Hidden						Light snow.
Base...		27.150	55	34	27.076	35	34	89.8	N.	4	.08		Nimbus	4-4	Hidden				9 04 p.m.		Threatening.
Summit	11 22 p.m.	23.690	69	26	23.610	26	25	88	N. W.	30	4.50		Nimbus	4-4	Hidden					.20	Light snow.
Base...		27.150	53	34.5	27.081	35	34	89.8	N. E.	2	.02		Stratus	4-4	Hidden					.08	Cloudy.
Summit	12 midn't	23.688	67	26	23.612	26	25	88	N. W.	26	3.38		Nimbus	4-4	Hidden						Light snow.
Base...		27.150	55	35	27.076	35	34.5	94.8	N. E.	2	.02		Stratus	4-4	Hidden						Cloudy.

Meteorological record for May 18, 1873.

Summit	1 0 a. m.	23.658	64	25	23.588	25	24	88	N. W.	24	2.88		Nimbus	4-4	Hidden						Light snow.
Base...		27.135	54	35	27.063	36	35	90	0	0	0		Stratus	4-4	Hidden						Cloudy.
Summit	2 0 a. m.	23.670	68	25	23.592	25	24	88	N. W.	28	3.92		Nimbus	4-4	Hidden						Light snow.
Base...		27.120	52	35.5	27.053	36	35	90	0	0	0		Nimbus	4-4	Hidden			1 45 a. m.			Light rain.
Summit	3 0 a. m.	23.640	67	25	23.564	25	24	88	N. W.	28	3.92		Nimbus	4-4	Hidden						Light snow.
Base...		27.110	51	35.5	27.046	36	35	90	N. E.	4	.08		Nimbus	4-4	Hidden						Light rain.
Summit	4 0 a. m.	23.635	65	26	23.563	26	25	88	N. W.	22	2.42		Nimbus	4-4	Hidden						Light snow.
Base...		27.100	49	35	27.040	36	35	90	0	0	0		Nimbus	4-4	Hidden						Light rain.
Summit	5 0 a. m.	23.630	67	26	23.574	26	25	88	N. W.	30	4.50		Nimbus	4-4	Hidden						Light snow.
Base...		27.100	50	34	27.038	34	33	89.5	0	0	0		Nimbus	4-1	Hidden						Heavy snow.
Summit	6 0 a. m.	23.620	62	25	23.555	24	24	88	N. W.	25	3.12		Nimbus	4-4	Hidden						Light snow.
Base...		27.110	49	34	27.050	34.5	34	94.8	W.	4	.08		Stratus	4-4	Hidden				5 30 a. m.		Cloudy.
Summit	7 0 a. m.	23.620	59	25	23.561	25	24	88	N. W.	24	2.88		Nimbus	4-4	Hidden						Light snow.
Base...		27.115	50	33.5	27.053	34	33	89.5	E.	4	.08		Nimbus	4-4	Hidden			6 15 a. m.			Light snow.
Summit	7 57 a. m.	23.611	60	22	23.550	22	21	85	N. W.	28	3.92		Nimbus	4-4	Hidden					.25	Light snow.
Base...		27.140	51	36	27.070	36	35	90	W.	1	.01		Stratus	4-4	Hidden				7 20	.36	Cloudy.
Summit	9 0 a. m.	23.658	60	24	23.588	24	23	87	N. W.	30	4.50		Nimbus	4-4	Hidden						Light snow.
Base...		27.143	50	37	27.081	37	36	90.3	N. W.	4	.08		Stratus	4-4	Hidden						Cloudy.
Summit	10 0 a. m.	23.650	60	24	23.588	24	23	87	N. W.	26	3.38		Nimbus	4-4	Hidden						Light snow.
Base...		27.142	52.5	39	27.074	39	37	81.6	N.	4	.08		Stratus	4-4	Hidden						Cloudy.
Summit	11 0 a. m.	23.684	66	24	23.610	24	23	87	N. W.	20	2.00		Nimbus	4-4	Hidden						Light snow.
Base...		27.150	51	38	27.084	39	37	81.6	S. W.	8	.32		Stratus	4-4	Hidden						Cloudy.
Summit	12 0 m ..	23.699	67	24	23.624	24	23	87	N. W.	18	1.62		Stratus	3-4	Hidden				11 35 a. m.		Clearing.
Base...		27.159	51	40	27.097	40.5	37.5	73.5	W.	4	.08		Stratus	4-4	Hidden			11 15 a. m.			Sleeting.
Summit	1 0 p. m.	23.700	63	26	23.632	26	25	88	N. W.	10	.50		Stratus	4-4	Hidden						Cloudy.
Base...		27.159	53	43	27.094	44	40.5	71.6	N. W.	4	.08		Stratus	2-4	Cumulus	1-4	N. W.		12 18 p. m		Fair.
Summit	2 0 p. m.	23.690	61	26	23.626	26	25	88	N. W.	22	2.42		0	0	Cumulus	3-4	N. W.				Fair.
Base...		27.163	53	43	27.094	44	39	59.7	N. W.	8	.32		Stratus	3-4	0	0	0	1 25 p. m.	1 35 p. m.		Clearing.
Summit	3 0 p. m.	23.680	62	25	23.614	25	24	88	N. W.	16	1.28		Stratus	4-4	Hidden						Cloudy.
Base...		27.162	56	45	27.086	45	41.5	72.3	W.	2	.02		Stratus	3-4	0	0	0				Cloudy.
Summit	4 0 p. m.	23.698	64	25	23.627	25	24	88	N. W.	14	.98		Stratus	4-4	Hidden						Cloudy.
Base...		27.178	57	42	27.095	42.5	39	70.6	N. W.	8	.32		Stratus	3-4	0	0	0				Cloudy.

Meteorological record for May 18, 1873—Continued.

(Hourly observations.)

Note.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer-readings corrected for temperature and instrumental error only.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		
Summit	4 57 p. m.	23.685	64	25	23.614	25	24	88	N. W.	24	2.88		Stratus	4-4	Hidden					.04	Cloudy.
Base		27.190	59	44	27.106	44	39	59.7	N. W.	12	.72		Stratus	1-4	Cirrus	2-4	N.				Fair.
Summit	6 0 p. m.	23.685	61	24	23.621	24	23	87	N. W.	26	3.38		0	0	Cumulus	2-4	N. W.				Fair.
Base		27.208	58	41	27.127	41	36	56.7	N. W.	8	.32		Stratus	1-4	Cirrus	2-4	N.				Fair.
Summit	7 0 p. m.	23.715	63	23	23.648	23	22	86	N. W.	22	2.42		0	0	Cumulus	2-4	N. W.				Fair.
Base		27.219	56	38	27.043	39	36	72.6	N. W.	4	.08		0	0	Cirrus	1-4	N.				Clear.
Summit	8 0 p. m.	23.715	68	23	23.637	23	22	86	N. W.	24	2.88		0	0	Cumulus	2-4	N. W.				Fair.
Base		27.219	53	33	27.150	34	32	79.2	N.	2	.02		Stratus	3-4	0	0	0				Cloudy.
Summit	9 0 p. m.	23.725	65	23	23.653	23	22	86	N. W.	36	6.48		Stratus	2-4	0	0	0				Fair.
Base		27.220	51	33	27.156	33	32	80.3	N.	4	.08		Stratus	2-4	0	0	0				Fair.
Summit	10 0 p. m.	23.732	67	23	23.656	23	22	86	N. W.	34	5.78		Stratus	2-4	0	0	0				Fair.
Base		27.219	51	32	27.155	32	30	79.4	N.	4	.08		0	0	0	0	0				Clear.
Summit	11 22 p. m.	23.723	65	24	23.651	24	23	87	N. W.	30	4.50		Stratus	1-4	0	0	0				Fair.
Base		27.209	48	30	27.152	31	29	78.8	N.	4	.08		0	0	0	0	0				Clear.
Summit	12 0 midnight.	23.700	63	24	23.633	24	23	87	N. W.	28	3.92		Stratus	1-4	Stratus	1-4	N. W.				Fair.
Base		27.192	47	31	27.137	32	30	79.4	N.	4	.08		Stratus	1-4	0	0	0				Clear.

Meteorological record for May 19, 1873.

Place of observation.	Time of observation.	Barometer.	Attached.	Exposed.	Corrected barometer.	Dry bulb.	Wet bulb.	Relative humidity.	Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Lower clouds, kind.	Amount.	Upper clouds, kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.	Amount of rain or melted snow.	Remarks.
Summit	1 0 a. m.	23.690	62	24	23.624	24	23	87	N. W.	26	3.38		Stratus	1-4	0	0	0				Fair.
Base		27.170	47	31	27.115	32	30	79.4	N.	4	.08		Stratus	2-4	0	0	0				Fair.
Summit	2 0 a. m.	23.665	62	24	23.599	24	23	87	N. W.	29	3.92		Stratus	2-4	0	0	0				Fair.
Base		27.163	45	32	27.113	33	31	80	N.	4	.08		Stratus	3-4	0	0	0				Cloudy.
Summit	3 0 a. m.	23.654	63	24	23.586	24	23	87	N. W.	32	5.12		Stratus	2-4	0	0	0				Fair.
Base		27.150	44	33	27.103	34	31	71.2	N.	4	.08		Stratus	2-4	Cirrus	2-4	N.				Cloudy.
Summit	4 0 a. m.	23.660	62	23	23.594	23	22	86	N. W.	50	12.50		Stratus	4-4	Hidden						Cloudy.
Base		27.140	45	33	27.090	34	31	71.2	N.	4	.08		Stratus	4-4	Hidden						Cloudy.
Summit	5 0 a. m.	23.620	61	24	23.556	24	23	87	N. W.	60	18.00		Stratus	4-4	Hidden						Cloudy.
Base		27.140	50	34	27.078	34	32	79.2	N.	1	.01		Stratus	3-4	0	0	0				Cloudy.
Summit	6 0 a. m.	23.660	63	24	23.592	24	23	87	N. W.	56	15.68		Stratus	4-4	Hidden						Cloudy.

Summit	7 0 a. m.	23. 665	64	24	23. 595	24	23	87	N. W.	48	11. 52	...	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Cloudy.
Base ..		27. 160	51	39	27. 096	39	34	54. 7	N. W.	1	. 01	...	Stratus ...	4-4	Hidden ..	...	...	...	...	...	Cloudy.
Summit	7 57 a. m.	23. 680	66	24	23. 605	24	23	87	N. W.	36	6. 48	...	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Cloudy.
Base ...		27. 168	51	41	27. 104	41	35	48. 8	N. W.	4	. 08	...	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Cloudy.
Summit	9 0 a. m.	23. 684	63	26	23. 617	26	25	88	N. W.	38	7. 22	...	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Cloudy.
Base ..		27. 180	54	44	27. 108	44. 5	38	49. 0	N. W.	6	. 18	...	Stratus ...	3-4	0	0	0	...	...	...	Cloudy.
Summit	10 0 a. m.	23. 712	63	26	23. 614	26	25	88	W.	13	. 81	...	0	0	Cumulus..	4-4	W.	...	...	...	Fair.
Base ..		27. 189	55	46	27. 115	46	39	47. 1	N. W.	8	. 32	...	Stratus ...	3-4	Cumulus..	1-4	N. W.	...	...	...	Cloudy.
Summit	11 0 a. m.	23. 720	60	25	23. 658	25	24	88	W.	28	3. 92	...	0	0	Cumulus..	4-4	W.	...	...	...	Fair.
Base ...		27. 198	54	45	27. 120	46	38	40	N. W.	6	. 18	...	Stratus ...	3-4	Cumulus..	1-4	N. W.	...	...	...	Cloudy.
Summit	12 0 m ..	23. 740	61	25	23. 670	25	24	88	W.	19	1. 80	...	0	0	Cumulus..	4-4	W.	...	...	...	Fair.
Base ..		27. 213	55	47. 5	27. 139	48	40	42. 6	N. W.	8	. 32	...	Stratus ...	4-4	Hidden ...	..	...	...	...	...	Cloudy.
Summit	1 0 p. m.	23. 761	62	25	23. 695	25	24	88	W.	14	. 98	...	0	0	Cu-strat ..	4-4	W.	...	...	...	Fair.
Base ...		27. 223	56	46	27. 147	47	39	41. 3	N. W.	4	. 08	...	Stratus ...	3-4	Cumulus..	1-4	N.	...	...	...	Cloudy.
Summit	2 0 p. m.	23. 764	63	25	23. 696	25	24	88	N. W.	9	. 40	...	0	0	Cu-strat ..	4-4	N. W.	...	...	...	Fair.
Base ...		27. 239	56	48. 5	27. 155	49	41	43. 9	N. W.	6	. 18	...	Stratus ...	3-4	Cumulus..	1-4	N. W.	...	...	...	Cloudy.
Summit	3 0 p. m.	23. 795	62	26	23. 729	26	25	88	N. W.	16	1. 28	...	0	0	Cumulus..	3-4	N. W.	...	...	...	Fair.
Base ..		27. 252	59	49	27. 168	49	41. 5	47. 1	N. W.	6	. 18	...	Stratus ...	2-4	Cumulus..	1-4	N. W.	...	...	...	Fair.
Summit	4 0 p. m.	23. 813	60	26	23. 751	26	25	88	N.	13	. 84	...	0	0	Cumulus..	2-4	W.	...	...	...	Fair.
Base ...		27. 261	58	47	27. 180	47	40	48. 3	N.	4	. 08	...	Stratus ...	2-4	Cumulus..	1-4	N. W.	...	...	...	Fair.
Summit	4 57 p. m.	23. 825	60	26	23. 765	26	25	88	N.	10	. 50	...	0	0	Cumulus..	2-4	N.	...	...	...	Fair.
Base ...		27. 288	57	47	27. 209	47	39	41. 3	N. E.	2	. 02	...	Stratus ..	1-4	Cirrus	2-4	N.	...	...	...	Fair.
Summit	6 0 p. m.	23. 830	57	26	23. 774	26	25	88	N.	8	. 32	...	0	0	Cumulus..	2-4	N.	...	...	...	Fair.
Base ...		27. 309	57	44	27. 230	44	37	44. 6	N. E.	2	. 02	...	Stratus ...	1-4	Cirrus	2-4	N.	...	...	...	Fair.
Summit	7 0 p. m.	23. 868	58	26	23. 810	26	25	88	N.	11	. 60	...	Stratus ...	1-4	0	0	0	...	...	...	Fair.
Base ...		27. 330	54	39	27. 246	39	34	54. 7	N. E.	4	. 08	...	Stratus ...	1-4	0	0	0	...	...	...	Clear.
Summit	8 0 p. m.	23. 880	66	26	23. 805	26	25	88	N.	5	. 12	...	Stratus ...	1-4	0	0	0	...	...	...	Fair.
Base ..		27. 348	53	38	27. 279	38	33	53. 7	N. E.	2	. 02	...	0	0	0	0	0	...	...	...	Clear.
Summit	9 0 p. m.	23. 900	65	26	23. 827	26	25	88	N.	8	. 32	...	0	0	0	0	0	...	...	...	Clear.
Base ..		27. 368	54	35	27. 284	35	31	62. 8	N. E.	4	. 08	...	0	0	0	0	0	...	...	...	Clear.
Summit	10 0 p. m.	23. 900	62	26	23. 833	26	25	88	N.	8	. 32	...	0	0	0	0	0	...	...	...	Clear.
Base ...		27. 379	52	32	27. 212	33	30	70. 3	N. E.	4	[illegible]	...	0	0	0	0	0	...	...	...	Clear.
Summit	11 22 p. m.	23. 900	66	26	23. 825	26	25	88	N.	20	[illegible]		0	0	0	0	0	...	...	...	Clear.
Base ...		27. 390	54	32	27. 206	33	29	60. 6	N. E.	4	[illegible]		0	0	0	0	0	...	...	...	Clear.
Summit	12 0 p. m.	3. 905	66	26	23. 830	26	25	88	N.	21	[illegible]	..	0	0	0	0	0	...	...	...	Clear.
Base ...		7. 390	52	32	27. 323	32	29	69. 4	N. E.	4	[illegible]	..	0	0	0	0	0	...	...	...	Clear.

Meteorological record for May 20, 1873.

Summit	1 0 a. m.	23. 905	63	26	23. 836	26	25	88	N.	20	2. 00	...	0	0	0	0	0	...	...	...	Clear.
Base ...		27. 390	52	31	27. 322	32	29	69	E.	4	. 08	...	0	0	0	0	0	...	...	...	Clear.
Summit	2 0 a. m.	23. 910	60	25	23. 847	25	24	88	N.	30	4. 50	...	0	0	0	0	0	...	...	...	Clear.
Base ..		27. 390	52	31	27. 322	32	23	59	E.	4	. 08	...	0	0	0	0	0	...	...	...	Clear.
Summit	3 0 a. m.	23. 905	56	25	23. 851	25	24	86	N.	26	3. 38	...	0	0	0	0	0	...	...	...	Clear.
Base ...		27. 390	48	31	27. 332	31	28	69	E.	4	. 08	...	0	0	0	0	0	...	...	...	Clear.
Summit	4 0 a. m.	23. 908	54	25	23. 858	25	24	88	N.	22	2. 42	...	0	0	0	0	0	...	...	...	Clear.
Base ...		27. 400	48	30	27. 342	30	28	78	N.	4	. 08	...	0	0	0	0	0	...	...	...	Clear.
Summit	5 0 a. m.	23. 920	50	[illegible]	23. 879	25	24	88	N.	18	1. 62	...	0	0	0	0	0	...	...	...	Clear.
Base ...		27. 415	49	30	27. 355	31	28	69	N.	4	. 08	...	0	0	0	0	0	...	...	...	Clear.

Meteorological record for May 20, 1873—Continued.

(Hourly observations.)

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer-readings corrected for temperature and instrumental error only.

Place of observation.	Time of observation.	Barometer.	THERM. Attached.	THERM. Exposed.	Corrected barometer.	HYGROM. Dry bulb.	HYGROM. Wet bulb.	Relative humidity.	WIND. Direction.	WIND. Velocity per hour.	WIND. Pressure per sq. ft.	WIND. Daily velocity.	LOWER CLOUDS. Kind.	LOWER CLOUDS. Amount.	UPPER CLOUDS. Kind.	UPPER CLOUDS. Amount.	UPPER CLOUDS. Direction, (moving from—)	RAIN OR SNOW. Commenc'd.	RAIN OR SNOW. Ended.	Amount of rain or melted snow.	Remarks.
Summit	6 0 a. m.	23.930	48	26	23.893	26	25	68	N.	16	1.28	....	0	0	0	0	0	....	....	....	Clear.
Base...		27.435	47	31	27.379	32	29	74	N.	1	.01	....	0	0	0	0	0	....	....	....	Clear.
Summit	7 0 a. m.	23.956	51	26	23.913	26	25	88	N.	14	.98	....	0	0	0	0	0	....	....	....	Clear.
Base...		27.459	50	38	27.396	39	34	55	N.	1	.01	....	0	0	0	0	0	....	....	....	Clear.
Summit	7.57 a. m.	23.965	48	26	23.928	26	25	88	N.	16	1.28	....	0	0	0	0	0	....	....	....	Clear.
Base...		27.469	51	42	27.404	42	36	50	N.W.	2	.02	....	0	0	0	0	0	....	....	....	Clear.
Summit	9 0 a. m.	23.995	51	27	23.952	27	26	83	N.	5	.12	....	0	0	0	0	0	....	....	....	Clear.
Base...		27.473	52	44	27.405	44	37	42	S.W.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	10 0 a. m.	24.005	50	28	23.964	28	26	77	N.	5	.12	....	0	0	0	0	0	....	....	....	Clear.
Base ..		27.484	56	47	27.406	48	38	32	N.E.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	11 0 a. m.	24.015	51	30	23.972	30	28	78	N.	6	.18	....	0	0	0	0	0	....	....	....	Clear.
Base...		27.458	56	49	27.410	49	40	37	S.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	12 0 m.	24.038	52	31	23.992	31	29	79	N.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Base ..		27.488	56	53	27.410	53	42	33	S.W.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	1 0 p. m.	24.050	55	32	23.998	32	30	79	N.	5	.12	....	0	0	0	0	0	....	....	....	Clear.
Base ..		27.486	57	58	27.406	58	46	32	N.E.	4	.08	....	0	0	Cumulus..	1-4	W.	....	....	....	Clear.
Summit	2 0 p. m.	24.035	48	33	23.998	33	31	79	N.	2	.02	....	0	0	Cumulus..	1-4	N.	....	....	....	Fair.
Base ..		27.488	59	58	27.403	58	45	27	N.E.	4	.08	....	0	0	Cumulus..	1-4	W.	....	....	....	Clear.
Summit	3 0 p. m.	24.055	56	34	24.001	34	32	79	0	0	0	....	0	0	Cumulus..	1-4	N.	....	....	....	Fair.
Base...		27.483	63	56	27.388	57	45	31	N.E.	4	.08	....	0	0	Cumulus..	1-4	W.	....	....	....	Clear.
Summit	4 0 p. m.	24.050	55	34	23.998	34	31	69	0	0	0	....	0	0	Cumulus..	1-4	0	....	....	....	Fair.
Base..		27.478	64	57	27.381	58	46	32	S.W.	6	.18	....	0	0	Cumulus..	1-4	S.W.	....	....	....	Clear.
Summit	4.57 p. m.	24.060	57	33	24.001	33	31	79	0	0	0	....	Hazy	..	Cumulus..	1-4	0	....	....	....	Fair.
Base...		27.499	65	55	27.399	56	44	29	N.	4	.08	....	0	0	Cirrus	1-4	N.	....	....	....	Fair.
Summit	6 0 p. m.	24.065	59	33	24.005	33	31	79	0	0	0	....	Hazy	....	Cumulus..	1-4	N.W.	....	....	....	Fair.
Base...		27.500	63	54	27.405	54	44	38	S E.	4	.08	....	Stratus ...	1-4	Cirrus	1-4	W.	....	....	....	Fair.
Summit	7 0 p. m.	24.073	63	32	24.004	32	31	89	W.	2	.02	....	Hazy	....	Cumulus..	1-4	N.W.	....	....	....	Fair.
Base...		27.508	61	49	27.418	49	41	44	S.E.	4	.08	....	Stratus ...	1-4	Cirrus	1-4	N.	....	....	....	Fair.
Summit	8 0 p. m.	24.075	61	31	24.010	31	30	89	W.	5	.12	....	Stratus ...	1-4	0	0	0	....	....	....	Fair.
Base ..		27.517	64	44	27.420	44	38	52	S.E.	4	.08	....	Stratus ...	1-4	0	0	0	....	....	....	Clear.
Summit	9 0 p. m.	24.085	62	31	23.018	31	30	89	W.	8	.32	....	0	0	0	0	0	....	....	....	Clear.
Base...		27.528	61	40	27.438	41	36	61	S.E.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	10 0 p. m.	24.080	62	30	23.013	30	29	89	W.	5	.12	....	0	0	0	0	0	....	....	....	Clear.
Base...		27.528	58	38	27.445	30	35	64	S.E.	4	.08	....	0	0	0	0	0	....	....	....	Clear.

Summit	11.23 p. m.	24.088	66	30	23.013	30	29	89	W.	7	.24	....	0	0	0	0	0	....	....	....	Clear.
Base		27.529	54	37	27.456	37	34	71	S.E.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	12 0 midnight.	24.090	65	30	23.017	30	28	78	S. W.	2	.02	....	0	0	0	0	0	....	....	....	Clear.
Base...		27.529	54	36	27.456	36	33	71	S.E.	2	.02	....	0	0	0	0	0	....	....	....	Clear.

Meteorological record for May 21, 1873.

Summit	1 0 a. m.	24.087	63	30	24.018	30	28	78	S. W.	10	.50	....	0	0	0	0	0	....	....	....	Clear.
Base...		27.523	53	35	27.453	36	33	71	S. E.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	2 0 a. m.	24.090	62	28	24.023	29	27	68	S. W.	13	.84	....	0	0	0	0	0	....	....	....	Clear.
Base...		27.523	53	36	27.453	36	34	80	S. E.	8	.32	....	0	0	0	0	0	....	....	....	Clear.
Summit	3 0 a. m.	24.100	69	28	24.018	28	27	88	S. W.	7	.24	....	0	0	0	0	0	....	....	....	Clear.
Base...		27.523	52	34	27.455	35	33	80	E.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	4 0 a. m.	24.105	69	29	24.023	29	27	78	S. W.	4	.08	....	Stratus....	1-16	0	0	0	....	....	....	Clear,
Base...		27.525	51	34	27.460	35	32	70	E.	8	.32	....	0	0	0	0	0	....	....	....	Clear.
Summit	5 0 a. m.	24.106	62	29	24.033	29	27	78	S. W.	11	.60	....	Stratus....	1-16	0	0	0	....	....	....	Clear.
Base...		27.527	51	35	27.462	35	33	80	E.	8	.32	....	0	0	0	0	0	....	....	....	Clear.
Summit	6 0 a. m.	24.095	60	29	24.032	29	27	78	S. W.	10	.50	....	Stratus....	1-4	0	0	0	....	....	....	Clear.
Base...		27.527	50	35	27.464	36	33	75	E.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	7 0 a. m.	24.103	62	29	24.036	29	27	78	S. W.	12	.72	....	Stratus....	1-8	0	0	0	....	....	....	Clear.
Base...		27.555	59	42	27.470	42	38	66	E.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	7 57 a. m.	24.108	63	30	24.039	30	28	78	S. W.	6	.18	....	Hazy......	....	0	0	0	....	....	....	Clear.
Base...		27.560	57	48	27.480	48	40	43	N. W.	4	.08	....	0	0	Cirrus.....	1-4	C.	....	....	....	Clear.
Summit	9 0 a. m.	24.115	59	31	24.055	31	29	79	S. W.	14	.98	....	Stratus....	1-8	0	0	0	....	....	....	Clear.
Base...		27.548	54	50	27.475	51	42	40	N.	6	.18	....	0	0	Cirrus.....	1-4	C.	....	....	....	Clear.
Summit	10 0 a. m.	24.103	55	32	24.053	32	29	69	S. W.	18	1.62	....	Stratus....	1-8	0	0	0	....	....	....	Clear.
Base...		27.539	54	52	27.466	52	42	35	S. E.	2	.02	....	0	0	Cirrus.....	2-4	C.	....	....	....	Fair.
Summit	11 0 a. m.	24.105	57	32	24.049	32	30	79	S.	16	1.28	...	0	0	Cirro-strat.	2-4	0	....	....	....	Fair.
Base...		27.528	55	56	27.453	56	45	35	S.	4	.08	....	0	0	Cirrus.....	3-4	C.	....	....	....	Fair.
Summit	12 0 m ..	24.100	57	33	24.044	33	30	69	S.	20	2.00	...	0	0	Cirro-strat.	2-4	0	....	....	....	Fair.
Base...		27.523	57	55	27.443	56	45	35	S. W.	8	.32	....	0	0	Cirrus.....	3-4	W.	....	....	....	Fair.
Summit	1 0 p.m.	24.090	61	32	24.025	32	30	79	S.	22	2.42	....	Cumulus ..	1-8	Cirro-strat.	2-4	0	....	....	....	Fair.
Base...		27.523	58	57	27.440	57	46	36	S. W.	8	.32	....	0	0	Cirrus.....	3-4	S. W.	....	....	....	Fair.
Summit	2 0 p.m.	24.078	59	33	24.018	33	30	69	S.	19	1.80	....	Cumulus ..	1-8	Cirro-strat.	2-4	N. W.	....	....	....	Fair.
Base...		27.504	62	59	27.412	59	48	38	S. W.	6	.18	....	0	0	Cirrus.....	3-4	S. W.	....	....	....	Fair.
Summit	3 0 p.m.	24.068	60	32	24.005	32	30	79	S.	24	2.88	....	Cumulus ..	1-4	Cirro-strat.	1-4	N. W.	....	....	....	Fair.
Base...		27.510	63	56	27.415	56	46	40	N. W.	8	.32	....	Stratus....	1-4	Cirrus.....	4-4	S. W.	....	....	....	Cloudy.
Summit	4 0 p.m.	24.068	63	32	23.999	32	30	79	S.	20	2.00	....	Hazy......	....	Cumulus ..	2-4	0	....	....	....	Fair.
Base...		27.495	61	55	27.405	56	46	36	W.	8	.32	....	Stratus....	2-4	Cirrus.....	2-4	C.	....	....	....	Cloudy.
Summit	4 57 p.m.	21.058	62	32	23.991	32	30	79	S. W.	18	1.62	....	Hazy......	....	Cumulus ..	3-4	S. W.	....	....	....	Fair.
Base...		27.489	60	53	27.402	53	44	42	S. W.	4	.08	....	Stratus....	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	6 0 p.m.	24.040	59	31	23.980	31	30	89	S. W.	22	2.42	..	Hazy......	....	Cumulus ..	3-4	S. W.	....	....	....	Fair.
Base...		27.490	61	52	27.400	52	43	41	S. W.	4	.08	....	Stratus....	4-4	Hidden....	....	....	....	....	....	Cloudy.
Summit	7 0 p.m.	24.050	59	30	23.990	30	29	89	S. W.	18	1.62	....	Hazy......	....	Stratus....	3-4	S. W.	....	....	....	Fair.
Base...		27.488	58	48	27.405	49	41	44	N.W.	4	.08	....	Stratus....	4-4	Hidden....	....	....	....	....	....	Cloudy.
Summit	8 0 p.m.	24.048	63	31	23.979	31	29	79	W.	12	.72	....	Hazy......	....	Stratus....	3-4	W.	....	....	....	Fair.
Base...		27.480	59	48	27.395	48	41	49	S. W.	4	.08	....	Stratus....	4-4	Hidden....	....	....	....	....	....	Cloudy.
Summit	9 0 p.m.	24.050	66	31	23.975	31	30	89	W.	10	.50	....	Hazy......	....	Stratus....	3-4	W.	....	....	....	Fair.
Base...		27.490	60	43	27 403	44	39	60	N. E.	4	.08	....	Stratus....	4-4	Hidden....	....	....	....	....	....	Cloudy.

Meteorological reccord for May 21, 1873—Continued.

(Hourly observations.

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer-readings corrected for temperature and instrumental error only.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.		
Summit	10 0 p.m.	24.040	61	31	23.975	31	30	89	W.	6	.18	....	Hazy......	....	Stratus....	3-4	W.	....	....	....	Fair.
Base...		27.485	60	42	27.399	42	38	66	N. E.	4	.08	....	Stratus....	4-4	Hidden....	....	....	....	....	....	Cloudy.
Summit	11 22 p.m.	24.030	63	31	23.961	31	30	89	S. W.	16	1.28	....	Stratus....	4-4	Hidden....	....	....	....	....	....	Threatning.
Base ..		27.458	54	41	27.385	41	37	65	N. E.	4	.08	....	Stratus....	4-4	Hidden....	....	....	....	....	....	Cloudy.
Summit	12 0 midnight.	24.019	61	32	23.954	32	32	100	S. W.	7	.24	....	Nimbus	4-4	Hidden....	....	....	11.25 p.m.	....	....	Heavy rain.
Base...		27.448	54	40	27.375	41	38	74	N. E.	2	.02	....	Stratus....	4-4	Hidden....	....	....	11.50 p.m.	....	....	Light rain.

Meteorological record for May 22, 1873.

Place of observation.	Time of observation.	Barometer.	Attached.	Exposed.	Corrected barometer.	Dry bulb.	Wet bulb.	Relative humidity.	Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Lower clouds, Kind.	Amount.	Upper clouds, Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.	Amount of rain or melted snow.	Remarks.
Summit	1 0 a. m.	24.019	65	32	23.946	32	32	100	S.W.	20	2.00	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Heavy rain.
Base...		27.435	54	40	27.365	41	40	91	N.	1	.01	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light rain.
Summit	2 0 a. m.	24.017	66	32	23.942	32	32	100	S.W.	26	3.38	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Heavy rain.
Base...		27.425	53	41	27.355	42	40	83	N.	4	.08	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light rain.
Summit	3 0 a. m.	24.009	64	33	23.938	33	33	100	S W.	22	2.42	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Heavy rain.
Base...		27.425	53	41	27.354	42	41	91	N.	4	.08	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light rain.
Summit	4 0 a. m.	23.907	67	33	23.829	33	33	100	S.W.	36	6.48	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Heavy rain.
Base...		27.415	55	43	27.340	43	42	87	N.	4	.08	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light rain.
Summit	5 0 a. m.	23.970	63	33	23.901	33	32	89	W.	30	4.50	....	Stratus ...	4-4	Hidden ...	....	....	....	4.46 a. m.	....	Cloudy.
Base ..		27.410	55	44	27.336	44	43	92	W.	4	.08	....	Stratus ...	4-4	Hidden ...	....	....	....	4.30 a. m.	....	Threatening.
Summit	6 0 a. m.	23.970	63	34	23.901	34	33	90	W.	34	5.78	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Base...		27.415	56	41	27.337	41	40	91	N. W.	4	0.8	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Summit	7 0 a. m.	23.950	60	34	23.887	34	33	90	S.W.	37	6.84	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Base...		27.410	55	44	27.335	44	43	92	Calm.	0	.00	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Summit	7 57 a. m.	23.938	57	34	23.882	34	33	90	S.W.	35	6.12	....	Stratus ...	4-4	Hidden ...	....	....	....	....	.82	Cloudy.
Base...		27.408	54	44	27.335	44	43	92	N. W.	4	.08	....	Stratus ...	4-4	Hidden ...	....	....	....	....	.15	Cloudy.
Summit	9 0 a. m.	23.968	59	33	23.908	33	32	89	S.W.	24	2.88	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Base...		27.408	53	46	27.338	46	45	92	W.	1	.01	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Summit	10 0 a. m.	23.968	62	33	23.901	33	32	89	S.W.	30	4.50	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Base...		27.400	53	49	27.330	49	47	85	S.W.	4	.08	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Summit	11 0 a. m.	23.968	61	32	23.903	32	32	100	S.W.	28	3.92	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Base...		27.390	54	50	27.316	50	48	82	W.	1	.01	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.

Summit	12 0 m...	23.960	58	33	23.902	33	32	89	W.	20	2.00	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Base ...		27.399	58	52	27.316	52	49	79	W.	1	.01	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Summit	1 0 p.m.	23.950	56	33	23.893	33	32	89	W.	24	2.88	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Base ..		27.390	59	53	27.306	53	50	77	W.	1	.01	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Summit	2 0 p.m.	23.942	53	33	23.894	33	32	89	W.	28	3.92	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Base ..		27.376	59	53	27.291	53	50	80	Calm.	0	.00	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Summit	3 0 p.m.	23.958	64	33	23.887	33	32	89	W.	30	4.50	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Base ..		27.380	58	50	27.297	50	48	82	S.W.	1	.01	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Summit	4 0 p.m.	23.940	58	33	23.882	33	33	100	W.	26	3.38	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Base ...		27.377	58	49	27.294	50	47	79	Calm.	0	.00	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Summit	4 57 p.m.	23.935	55	33	23.883	33	33	100	W.	30	4.50	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Base ...		27.380	57	47	27.300	47	45	85	S.E.	2	.02	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Summit	6 0 p.m.	23.915	55	33	23.863	33	33	100	W.	30	4.50	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Base ...		27.382	61	46	27.292	47	45	85	S.E.	2	.02	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Summit	7 0 p.m.	23.935	57	33	23.879	33	33	100	W.	25	3.12	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Base ...		27.378	58	45	27.295	46	44	84	S.E.	4	.08	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Summit	8 0 p.m.	23.950	60	32	23.887	32	32	100	W.	37	6.84	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Base ...		27.379	60	44	27.292	45	43	84	S.E.	2	.02	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Summit	9 0 p.m.	23.961	60	33	23.903	53	33	100	W.	36	6.48	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Base ...		27.389	60	46	27.302	46	44	84	S.E.	4	.08	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Summit	10 0 p.m.	23.965	64	32	23.894	32	32	100	W.	35	6.12	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Base ...		27.378	60	45	27.291	46	45	88	S.E.	4	.08	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Summit	11 22 p.m.	23.960	64	32	23.889	32	32	100	W.	30	4.50	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Base ..		27.357	57	45	27.277	46	45	88	S.E.	4	.08	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Summit	12 0 midnight.	23.972	67	36	23.894	36	36	100	S. W.	24	2.88	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Base ...		27.340	57	45	27.260	46	45	88	S.E.	4	.08	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.

Meteorological record for May 23, 1873.

Summit	1 0 a.m.	23.975	75	37	23.880	37	36	90	S. W.	20	2.00	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Base ...		27.325	59	46	27.240	46	45	92	S. E.	4	.08	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Summit	2 0 a.m.	23.970	75	37	23.875	37	36	90	S. W.	18	1.62	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Base ...		27.325	59	45	27.240	45	44	92	S. E.	4	.08	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Summit	3 0 a.m.	23.955	69	37	23.873	37	36	90	S. W.	14	.98	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Base ...		27.325	59	45	27.240	45	44	92	S. E.	4	.08	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Summit	4 0 a.m.	23.960	71	37	23.874	37	36	90	S. W.	12	.72	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Base ...		27.305	57	46	27.225	46	45	92	S. E.	8	.32	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Summit	5 0 a.m.	23.960	71	37	23.874	37	36	90	S. W.	10	.50	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Base ...		27.300	57	45	27.220	45	44	92	S. E.	8	.32	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Summit	6 0 a.m.	23.950	69	37	23.868	37	36	90	S. W.	13	.84	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Base ...		27.305	58	46	27.222	46	45	88	S. E.	4	.08	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Summit	7 0 a.m.	23.955	73	36	23.865	36	35	90	W.	14	.98	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Base ...		27.305	56	49	27.227	49	46	78	S. E.	4	.08	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Summit	7 57 a.m.	23.925	65	38	23.852	38	37	90	W.	24	2.88	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Base ...		27.300	56	50	27.222	50	47	79	S. E.	4	.08	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Summit	9 0 a.m.	23.920	61	36	23.855	36	35	90	W.	18	1.62	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Base ...		27.295	55	52	27.220	52	49	79	S. E.	4	.08	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Summit	10 0 a.m.	23.932	62	38	23.865	38	37	90	W.	22	2.42	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Base ...		27.295	56	57	27.217	56	52	75	S.	1	.01	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.

Meteorological record for May 23, 1873—Continued.

(Hourly observations.)

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer-readings corrected for temperature and instrumental error only.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'd.	Ended.		
Summit	11 0 a. m.	23.931	61	39	23.866	39	38	91	W.	30	4.50	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Base ...		27.300	60	60	27.213	59	54	70	W.	4	.08	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Summit	12 0 m.	23.932	63	39	23.863	39	38	91	W.	25	3.12	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Base ..		27.295	62	63	27.203	62	56	67	S.	4	.08	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Summit	1 0 p. m.	23.935	66	40	23.860	40	39	91	W.	16	1.28	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Base ...		27.285	63	63	27.190	62	57	69	W.	8	.32	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Summit	2 0 p. m.	23.915	63	40	23.846	40	39	91	W.	31	4.80	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Base ...		27.280	66	64	27.178	64	59	73	S. W.	8	.32	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Summit	3 0 p. m.	23.918	69	42	23.836	42	41	91	W.	40	8.00	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Base ...		27.265	66	64	27.164	64	58	68	E.	4	.08	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Summit	4 0 p. m.	23.915	71	41	23.829	41	40	91	W.	36	6.48	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Base ...		27.240	67	63	27.137	63	58	72	S.	4	.08	....	Stratus ...	3-4	0	0	0	....	....	....	Cloudy.
Summit	4 57 p. m.	23.900	67	42	23.822	42	41	91	W.	38	7.22	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Base ...		27.229	65	62	27.131	62	56	67	S.	4	.08	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Summit	6 0 p. m.	23.885	71	42	23.799	42	41	91	W.	30	4.50	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Base ...		27.210	68	58	27.105	58	54	76	S. E.	4	.08	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Summit	7 0 p. m.	23.885	73	43	23.795	43	42	91	W.	48	11.52	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Base ..		27.189	65	58	27.091	59	54	70	S. E.	8	.32	....	Stratus ...	1-4	Cirrus	2-4	W.	....	....	....	Fair.
Summit	8 0 p. m.	23.860	67	43	23.782	43	42	91	S. W.	50	12.50	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Base ...		27.189	65	54	27.091	54	52	83	N.	4	.08	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Summit	9 0 p. m.	23.854	65	42	23.781	42	41	91	S. W.	46	10.58	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Base ...		27.179	65	54	27.081	55	52	84	N.	8	.32	....	Stratus ...	3-4	0	0	0	....	....	....	Cloudy.
Summit	10 0 p. m.	23.844	69	41	23.762	41	40	91	S. W.	52	13.52	....	Stratus ...	3-4	Hidden ...	....	....	....	....	....	Cloudy.
Base ...		27.150	63	53	27.057	53	51	86	N.	8	.32	....	Stratus ...	2-4	0	0	0	....	....	....	Fair.
Summit	11 22 p. m.	23.800	75	41	23.706	41	40	91	W.	60	18.00	...	Stratus ...	3-4	0	0	0	....	....	....	Fair.
Base ...		27.119	60	54	27.033	54	52	83	N.	8	.32	....	Stratus ...	2-4	0	0	0	....	....	....	Fair.
Summit	12 0 midnight.	23.734	74	41	23.662	41	40	91	W.	64	20.48	....	Stratus ...	3-4	0	0	0	....	....	....	Fair.
Base ...		27.090	63	54	26.997	54	52	87	N.	4	.08	....	Stratus ...	2-4	0	0	0	....	....	....	Cloudy.

Meteorological record for May 24, 1873.

Summit	1 0 a. m.	23. 748	74	40	23. 657	40	39	91	W.	66	21. 78	....	Stratus	4-4	Hidden						Cloudy.
Base		27. 080	63	53	26. 987	53	51	86	N.	4	. 08	....	Stratus	4-4	Hidden						Cloudy.
Summit	2 0 a. m.	23. 662	63	39	23. 594	39	38	91	W.	72	25. 92	....	Stratus	4-4	Hidden						Cloudy.
Base		27. 065	62	51	26. 974	51	49	86	N.	4	. 08	....	Stratus	4-4	Hidden						Cloudy.
Summit	3 0 a. m.	23. 658	64	39	23. 588	39	38	91	W.	62	19. 22	....	Stratus	4-4	Hidden						Cloudy.
Base		27. 050	60	50	26. 964	50	48	86	N.	4	. 08	....	Stratus	4-4	Hidden						Cloudy.
Summit	4 0 a. m.	23. 650	63	38	23. 582	38	37	90	W.	50	12. 50	....	Stratus	4-4	Hidden						Cloudy.
Base		27. 035	58	49	26. 944	49	48	93	S. E.	8	. 32	....	Stratus	4-4	Hidden						Cloudy.
Summit	5 0 a. m.	23. 646	64	37	23. 576	37	36	90	W.	48	11. 52	....	Stratus	4-4	Hidden						Cloudy.
Base		27. 030	59	50	26. 946	50	48	86	S. E.	8	. 32	....	Stratus	3-4	Cirrus	1-4	W.				Cloudy.
Summit	6 0 a. m.	23. 640	61	36	23. 576	36	35	90	W.	36	6. 48	....	Stratus	4-4	Hidden						Cloudy.
Base		27. 005	56	48	26. 929	48	46	85	S. E.	4	. 08	....	Stratus	1-4	Cirrus	1-4	S. W.				Fair.
Summit	7 0 a. m.	23. 660	62	36	23. 594	36	35	90	W.	38	7. 22	....	Stratus	4-4	Hidden						Cloudy.
Base		27. 000	56	51	26. 924	51	49	86	S. E.	8	. 32	....	Stratus	1-4	Cirrus	1-4	S. W.				Fair.
Summit	7 57 a. m.	23. 675	61	35	23. 611	35	34	90	W.	40	8. 00	....	Stratus	4-4	Hidden						Cloudy.
Base		26. 988	57	58	26. 909	58	53	70	E.	4	. 08	....	Stratus	2-4	0	0	0				Fair.
Summit	9 0 a. m.	23. 680	60	36	23. 618	36	35	90	W.	24	2. 88	....	Stratus	4-4	Hidden						Cloudy.
Base		26. 985	60	64	26. 899	64	58	68	S.W.	4	. 08	....	Stratus	1-4	Cumulus	1-4	S. W.				Fair.
Summit	10 0 a. m.	23. 660	55	36	23. 609	36	35	90	W.	31	4. 80	....	Hazy	....	Cumulus	2-4	W.				Fair.
Base		26. 980	63	66	26. 887	66	57	54	W.	4	. 08	....	Stratus	1-4	Cirrus	1-4	S. W				Fair.
Summit	11 0 a. m.	23. 640	55	36	23. 589	36	35	90	W.	19	1. 80	....	Hazy	....	Cumulus	4-4	W.				Fair.
Base		26. 975	65	67	26. 877	67	56	46	W.	12	. 72	....	Stratus	2-4	0	0	0				Fair.
Summit	12 0 m...	23. 594	55	37	23. 543	37	36	90	W.	31	4. 80	....	Hazy	....	Cumulus	3-4	W.				Fair.
Base		26. 950	67	69	26. 847	69	57	42	W.	12	. 72	....	Stratus	1-4	Cumulus	1-4	S. W.				Fair.
Summit	1 0 p. m.	23. 590	58	37	23. 433	37	36	90	W.	30	4. 50	....	Hazy	....	Cumulus	3-4	W.				Fair.
Base		26. 925	67	67	26. 822	67	57	50	W.	12	. 72	....	Stratus	2-4	Cumulus	1-4	S. W.				Cloudy.
Summit	2 0 p. m.	23. 580	59	41	23. 521	41	41	100	W.	36	6. 48	....	Nimbus	4-4	Hidden			1 30 p. m.			L't rain, (thund. show'r.)
Base		26. 960	65	56	26. 862	56	54	87	S.	8	. 32	....	Stratus	4-4	Hidden			1 20 p. m.	1 50 p. m.		Cloudy.
Summit	3 0 p. m.	23. 518	62	41	23. 453	41	41	100	W.	50	12. 50	....	Nimbus	4-4	Hidden						L't rain, (thund. show'r.)
Base		26. 929	62	53	26. 838	53	52	93	E.	4	. 08	....	Stratus	4-4	Hidden						Cloudy.
Summit	4 0 p. m.	23. 500	62	39	23. 435	39	38	91	W.	42	8. 82	....	Hazy	....	Cumulus	3-4	W.				Clearing.
Base		26. 930	65	63	26. 832	64	56	60	W.	8	. 32	....	Stratus	1-4	Cumulus	2-4	W.				Fair.
Summit	4 57 p. m.	23. 485	61	38	23. 422	38	37	90	W.	60	18. 00	....	Hazy	....	Cumulus	3-4	W.		3 30 p. m.	. 10	Fair.
Base		26. 969	67	63	26. 866	63	53	47	N. W.	12	. 72	....	Stratus	1-4	Cirrus	1-4	N. W.			. 11	Fair.
Summit	6 0 p. m.	23. 515	60	37	23. 454	37	36	90	W.	72	25. 92	....	Hazy	....	Cumulus	3-4	W.				Fair.
Base		26. 999	69	58	26. 891	58	51	58	N. W.	8	. 32	....	Stratus	2-4	Cirrus	1-4	N. W.				Fair.
Summit	7 0 p. m.	23. 511	63	37	23. 446	37	36	90	W.	68	23. 12	....	Stratus	4-4	Hidden						Cloudy.
Base		27. 009	64	55	26. 913	55	49	62	N. W.	8	. 32	....	Stratus	4-4	Hidden						Cloudy.
Summit	8 0 p. m.	23. 580	64	37	23. 510	37	37	100	W.	60	18. 00	....	Stratus	4-4	Hidden						Cloudy.
Base		27. 010	63	53	26. 917	53	49	73	N. W.	8	. 32	....	Stratus	4-4	Hidden						Cloudy.
Summit	9 0 p. m.	23. 580	62	37	23. 515	37	37	100	W.	64	20. 48	....	Stratus	4-4	Hidden						Cloudy.
Base		27. 018	63	53	26. 915	53	49	73	N. W.	8	. 32	....	Stratus	4-4	Hidden						Cloudy.
Summit	10 0 p. m.	23. 565	67	37	23. 489	37	37	100	W.	70	24. 50	....	Stratus	4-4	Hidden						Cloudy.
Base		27. 019	63	53	26. 916	53	50	80	N. W.	8	. 32	....	Stratus	4-4	Hidden						Cloudy.
Summit	11 22 p. m.	23. 540	67	37	23. 464	37	37	100	W.	72	25. 92	....	Stratus	4-4	Hidden						Cloudy.
Base		27. 020	60	51	26. 934	51	49	86	N. W.	2	. 02	....	Stratus	4-4	Hidden						Cloudy.
Summit	12 0 mid-night.	23. 565	67	37	23. 489	37	37	100	W.	62	19. 22	....	Stratus	4-4	Hidden						Cloudy.
Base		27. 020	60	51	26. 934	51	49	86	N. W.	2	. 02	....	Stratus	4-4	Hidden						Cloudy.

Meteorological record for May 25, 1873.

(Hourly observations.)

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer-readings corrected for temperature and instrumental error only.

Place of observation.	Time of observation.	Barometer.	THERM. Attached.	THERM. Exposed.	Corrected barometer.	HYGROM. Dry bulb.	HYGROM. Wet bulb.	Relative humidity.	WIND. Direction.	WIND. Velocity per hour.	WIND. Pressure per sq. ft.	WIND. Daily velocity.	LOWER CLOUDS. Kind.	LOWER CLOUDS. Amount.	UPPER CLOUDS. Kind.	UPPER CLOUDS. Amount.	UPPER CLOUDS. Direction, (moving from—)	RAIN OR SNOW. Commen'd.	RAIN OR SNOW. Ended.	Amount of rain or melted snow.	Remarks.
Summit	1 0 a. m.	23. 584	65	37	23. 512	37	36	90	W.	68	23. 12	....	Stratus	4-4	Hidden						Cloudy.
Base		27. 025	60	51	26. 939	51	49	86	N. W.	8	. 32	....	Nimbus	4-4	Hidden			12. 45 a. m.			Light rain.
Summit	2 0 a. m.	23. 600	65	37	23. 528	37	36	90	W.	72	25. 92	....	Stratus	4-4	Hidden						Cloudy.
Base		27. 025	60	50	26. 939	50	49	93	N. W.	8	. 32	....	Nimbus	4-4	Hidden						Light rain.
Summit	3 0 a. m.	23. 630	62	36	23. 567	36	35	90	W.	72	25. 92	....	Stratus	4-4	Hidden						Cloudy.
Base		27. 048	59	50	26. 964	50	49	93	W.	4	. 08	....	Nimbus	4-4	Hidden						Light rain.
Summit	4 0 a. m.	23. 615	60	36	23. 554	36	35	90	W.	65	21. 12	....	Stratus	4-4	Hidden						Cloudy.
Base		27. 060	57	49	26. 981	49	48	93	W.	1	. 01	....	Nimbus	4-4	Hidden						Light rain.
Summit	5 0 a. m.	23. 680	57	35	23. 625	35	35	100	W.	50	12. 50	....	Stratus	4-4	Hidden						Cloudy.
Base		27. 075	56	48	26. 999	48	47	93	W.	8	. 32	....	Nimbus	4-4	Hidden						Light rain.
Summit	6 0 a. m.	23. 690	53	35	23. 643	35	35	100	W.	42	8. 82	....	Stratus	4-4	Hidden						Cloudy.
Base		27. 100	56	46	27. 024	46	45	92	Calm.	0	. 00	....	Nimbus	4-4	Hidden						Light rain.
Summit	7 0 a. m.	23. 710	54	35	23. 661	35	35	100	W.	36	6. 48	....	Stratus	4-4	Hidden						Cloudy.
Base		27. 128	56	48	27. 052	48	47	93	W.	4	. 08	....	Nimbus	4-4	Hidden						Light rain.
Summit	7 57 a. m.	23. 765	57	35	23. 709	35	34	90	W.	35	6. 12	....	Stratus	4-4	Hidden						Clearing.
Base		27. 155	58	49	27. 074	49	48	93	N.	4	. 08	....	Stratus	3-4	0	0	0		7. 40 a. m.	. 17	Clearing.
Summit	9 0 a. m.	23. 762	58	36	23. 704	36	35	90	N.	30	4. 50	....	Cumulus	1-4	Hidden						Fair.
Base		27. 160	58	54	27. 079	54	52	87	N. W.	4	. 08	....	Stratus	2-4	0	0	0				Fair.
Summit	10 0 a. m.	23. 800	58	36	23. 742	36	35	90	N.	24	2. 88	....	Cumulus	1-4	Hidden						Fair.
Base		27. 189	59	57	27. 105	57	54	78	N. W.	4	. 08	....	Stratus	3-4	0	0	0				Cloudy.
Summit	11 0 a. m.	23. 830	59	37	23. 770	37	35	80	N.	18	1. 62	....	Cumulus	1-4	Hidden						Fair.
Base		27. 200	59	57	27. 116	52	52	69	N. W.	4	. 08	....	Stratus	2-4	0	0	0				Fair.
Summit	12 0 m.	23. 865	67	40	23. 787	40	37	73	N.	16	1. 28	....	Cumulus	1-4	Hidden						Fair.
Base		27. 210	62	61	27. 119	61	57	77	N. W.	4	. 08	....	0	0	Cumulus	2-4	N.				Fair.
Summit	1 0 p. m.	23. 875	65	40	23. 802	40	37	73	N.	12	. 72	....	Hazy		Cumulus	1-4	0				Fair.
Base		27. 220	64	65	27. 124	66	52	33	N. W.	4	. 08	....	0	0	Cumulus	1-4	N. E.				Fair.
Summit	2 0 p. m.	23. 870	62	40	23. 823	40	36	65	N.	6	. 18	....	Hazy		Cumulus	1-4	0				Fair.
Base		27. 235	67	67	27. 130	67	53	33	N. E.	6	. 18	....	0	0	Cumulus	1-4	N. E.				Fair.
Summit	3 0 p. m.	23. 918	67	41	23. 840	41	38	74	N.	5	. 12	....	Hazy		Cumulus	1-4	0				Fair.
Base		27. 241	70	67	27. 129	67	54	37	N. W.	4	. 08	....	0	0	Cumulus	1-4	N. E.				Fair.
Summit	4 0 p. m.	23. 929	65	42	23. 856	42	30	75	N.	8	. 32	....	Hazy		Cumulus	2-4	N.				Fair.
Base		27. 269	71	66	27. 155	66	54	41	N. W.	4	. 08	....	0	0	Cumulus	2-4	N. W.				Fair.
Summit	4 57 p. m.	23. 935	66	41	23. 860	41	39	83	N.	7	. 24	....	Hazy		Cumulus	2-4	N.				Fair.
Base		27. 280	72	65	27. 172	65	53	40	N. W.	8	. 32	....	0	0	Cirrus	2-4	N. W.				Fair.

Summit	6 0 p. m.	23. 940	62	40	23. 873	40	38	[illegible]	N.	8	.32	....	Hazy	....	Cumulus..	1-4	N.	....	....	....	Fair.
Base...		27. 309	72	63	27. 192	63	51	38	N. W.	4	.08	....	0	0	Cirrus	1-4	N. W.	....	....	....	Fair.
Summit	7 0 p. m.	23. 960	62	39	23. 893	39	37	81	N.	6	.18	....	Hazy	....	0	0	0	....	....	....	Clear.
Base...		27. 309	63	52	27. 214	53	46	57	N.	2	.02	...	0	0	0	0	0	....	....	....	Clear.
Summit	8 0 p. m.	23. 970	64	38	23. 899	38	36	81	N. W.	4	.08	....	Hazy	....	0	0	0	....	....	....	Clear.
Base...		27. 328	62	47	27. 236	48	42	56	N.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	9 0 p. m.	24. 001	73	37	23. 911	37	36	90	N. W.	7	.24	....	Hazy	....	0	0	0	....	....	....	Clear.
Base...		27. 349	65	45	27. 249	46	41	62	N.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	10 0 p. m.	24. 020	73	36	23. 930	36	35	90	N. W.	1	.01	....	Hazy	....	0	0	0	....	....	....	Clear.
Base...		27. 350	63	44	27. 255	44	41	76	N.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	11 22 p. m.	24. 000	69	37	23. 918	37	34	71	W.	10	.50	....	Hazy	....	0	0	0	....	....	....	Clear.
Base...		27. 350	58	43	27. 267	44	41	76	N.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	12 0 mid-night.	24. 022	68	37	23. 942	37	34	71	W.	6	.18	....	Hazy	....	0	0	0	....	....	....	Clear.
Base...		27. 350	57	44	27. 270	44	41	76	N.	4	.08	....	0	0	0	0	0	....	....	....	Clear.

Meteorological record for May 26, 1873.

Summit	1 0 a. m.	24. 025	67	37	23. 947	37	34	71	W.	2	.02	....	0	0	0	0	0	....	....	....	Clear.
Base...		27. 350	57	43	27. 270	43	40	75	N.	8	.32	....	0	0	0	0	0	....	....	....	Clear.
Summit	2 0 a. m.	24. 020	63	36	23. 951	36	34	80	W.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Base...		27. 330	57	43	27. 290	43	40	75	N.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	3 0 a. m.	24. 020	63	36	23. 951	36	34	80	W.	5	.12	....	0	0	0	0	0	....	....	....	Clear.
Base...		27. 360	55	43	27. 290	43	40	75	N.	8	.32	....	0	0	0	0	0	....	....	....	Clear.
Summit	4 0 a. m.	24. 036	67	36	23. 958	36	34	80	N.	7	.24	....	0	0	0	0	0	....	....	....	Clear.
Base...		27. 365	53	43	27. 295	43	40	75	N.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	5 0 a. m.	24. 042	65	37	23. 969	37	35	80	N.	2	.02	....	0	0	0	0	0	....	....	....	Clear.
Base...		27. 370	53	44	27. 300	44	40	68	N.	8	.32	....	0	0	0	0	0	....	....	....	Clear.
Summit	6 0 a. m.	24. 058	64	40	23. 987	40	37	72	N.	2	.02	....	0	0	0	0	0	....	....	....	Clear.
Base...		27. 400	57	44	27. 320	44	41	76	N.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	7 0 a. m.	24. 070	64	41	23. 999	41	38	74	0	0	0	....	0	0	0	0	0	....	....	....	Clear.
Base...		27. 415	56	50	27. 337	50	45	61	N.	4	.08	....	0	0	Cirrus	1-4	C.	....	....	....	Clear.
Summit	7 57 a. m.	24. 080	59	43	24. 020	43	39	66	0	0	0	....	Stratus....	1-4	Cirrus.....	1-8	N.	....	....	....	Fair.
Base...		27. 425	57	49	27. 346	49	47	85	N.	4	.08	....	0	0	Cirrus.....	1-4	W.	....	....	....	Fair.
Summit	9 0 a. m.	24. 085	57	43	24. 029	43	40	75	0	0	0	....	Stratus....	1-4	Cirro-str ..	1-4	N.	....	....	....	Fair.
Base...		27. 421	59	63	27. 336	64	52	39	N.	2	.02	....	Haze......	0	Cirrus.....	2-4	W.	....	....	....	Fair.
Summit	10 0 a. m.	24. 090	60	44	24. 027	44	40	67	S.	8	.32	....	Cumulus ..	1-8	Cirro-str ..	1-4	S.	....	....	....	Fair.
Base...		27. 428	61	67	27. 338	67	53	33	N. W.	3	.04	....	Haze......	0	Cirrus.....	3-4	W.	....	....	....	Fair.
Summit	11 0 a. m.	24. 075	63	46	24. 006	46	41	60	S.	1	.01	....	Hazy......	....	Cirro-cum .	3-4	S.	....	....	....	Fair.
Base...		27. 409	63	69	27. 314	69	55	37	N. W.	4	.08	....	Haze......	0	Cirrus.....	3-4	W.	....	....	....	Fair.
Summit	12 0 m ..	24. 081	63	47	24. 015	47	42	61	S. W.	6	.18	....	Hazy......	....	Cumulus ..	3-4	S.	....	....	....	Fair.
Base...		27. 400	66	72	27. 308	71	56	33	S.	4	.08	....	Haze......	0	Cumulus ..	3-4	W.	....	....	....	Cloudy.
Summit	1 0 p. m.	24. 070	65	46	23. 997	46	41	60	S. W.	2	.02	....	Hazy......	...	Cumulus ..	3-4	S.	....	....	....	Fair.
Base...		27. 392	69	71	27. 284	71	56	33	N. W.	4	.0[illegible]	....	Hazy......	0	Cumulus ..	3-4	W.	....	....	....	Cloudy.
Summit	2 0 p. m.	24. 083	65	46	24. 010	46	42	68	W.	12	.72	...	Hazy......	....	Cumulus ..	4-4	W.	....	....	....	Fair.
Base...		27. 405	69	71	27. 295	71	57	35	W.	4	.08	....	Stratus....	2-4	Cirrus.....	1-4	W.	....	....	....	Cloudy.
Summit	3 0 p. m.	24. 065	65	46	23. 992	46	41	60	W.	10	.50	....	Hazy......	....	Cumulus ..	3-4	W.	....	....	....	Fair.
Base...		27. 405	72	71	27. 288	71	55	29	W.	4	.08	....	Hazy......	0	Cirrus.....	2-4	W.	....	....	....	Fair.
Summit	4 0 p. m.	24. 070	69	47	23. 988	47	41	55	W.	14	.98	....	Hazy......	....	Cumulus ..	3-4	W.	....	....	....	Fair.
Base...		27. 410	74	70	27. 288	70	55	32	N. W.	4	.08	....	Stratus....	3-4	Cirrus.....	1-4	W.	....	....	....	Cloudy.

Meteorological record for May 26, 1873—Continued.

(Hourly observations.)

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer-readings corrected for temperature and instrumental error only.

Place of observation.	Time of observation.	Barometer.	THERM. Attached.	THERM. Exposed.	Corrected barometer.	HYGROM. Dry bulb.	HYGROM. Wet bulb.	Relative humidity.	WIND. Direction.	WIND. Velocity per hour.	WIND. Pressure per sq. ft.	WIND. Daily velocity.	LOWER CLOUDS. Kind.	LOWER CLOUDS. Amount.	UPPER CLOUDS. Kind.	UPPER CLOUDS. Amount.	UPPER CLOUDS. Direction, (moving from—)	RAIN OR SNOW. Commen'd.	RAIN OR SNOW. Ended.	Amount of rain or melted snow.	Remarks.
Summit	4 57 p. m.	24.062	71	45	23.976	45	40	60	W.	16	1.28	....	Hazy	....	Cirro-cum	2-4	W.	....	....	....	Fair.
Base ..		27.395	74	69	27.273	69	54	31	W.	4	.08	....	Stratus	1-4	Cirrus	1-4	W.	....	....	....	Fair.
Summit	6 0 p. m.	24.050	68	44	23.970	44	39	59	W.	10	.50	....	Hazy	....	Cirro-cum	2-4	W.	....	....	....	Fair.
Base ..		27.378	66	59	27.276	58	49	48	S. W.	4	.08	....	Stratus	1-4	Cirrus	2-4	N. W.	....	....	....	Fair.
Summit	7 0 p. m.	24.010	66	46	23.965	46	42	68	W.	20	2.00	....	Hazy	....	Cirro-cum	2-4	W.	....	....	....	Fair.
Base ..		27.360	62	56	27.268	57	49	55	S. E.	4	.08	....	Stratus	1-4	Cirrus	1-4	N. W.	....	....	....	Fair.
Summit	8 0 p. m.	24.025	67	45	23.947	45	43	84	W.	16	1.28	....	Hazy	....	Stratus	3-4	W.	....	....	....	Fair.
Base .		27.350	64	52	27.253	53	48	64	S. E.	4	.08	....	Stratus	3-4	0	0	0	....	....	....	Fair.
Summit	9 0 p. m.	24.035	68	44	23.955	44	42	83	W.	20	2.00	....	Hazy	....	Stratus	3-4	W.	....	....	....	Fair.
Base ..		27.370	67	53	27.265	54	48	64	S. E.	4	.08	....	Stratus	2-4	0	0	0	....	....	....	Fair.
Summit	10 0 p. m.	24.032	72	42	23.944	42	41	83	W.	24	2.88	....	Hazy	....	Stratus	4-4	W.	....	....	....	Fair.
Base		27.370	65	51	27.272	51	47	72	S. E.	4	.08	....	Stratus	3-4	0	0	0	....	....	....	Fair.
Summit	11 22 p. m.	24.000	67	44	23.922	44	43	84	W.	18	1.62	....	Hazy	....	Stratus	4-4	W.	....	....	....	Fair.
Base ..		27.362	62	51	27.270	51	47	73	S. E.	4	.08	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	12 0 midnight.	24.000	65	44	23.917	44	43	84	W.	16	1.28	....	Hazy	....	Stratus	4-4	W.	....	....	....	Fair.
Base ..		27.362	61	50	27.272	51	47	73	S. E.	4	.08	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.

Meteorological record for May 27, 1873.

Place of observation.	Time of observation.	Barometer.	THERM. Attached.	THERM. Exposed.	Corrected barometer.	HYGROM. Dry bulb.	HYGROM. Wet bulb.	Relative humidity.	WIND. Direction.	WIND. Velocity per hour.	WIND. Pressure per sq. ft.	WIND. Daily velocity.	LOWER CLOUDS. Kind.	LOWER CLOUDS. Amount.	UPPER CLOUDS. Kind.	UPPER CLOUDS. Amount.	UPPER CLOUDS. Direction, (moving from—)	RAIN OR SNOW. Commen'd.	RAIN OR SNOW. Ended.	Amount of rain or melted snow.	Remarks.
Summit	1 0 a. m.	24.000	61	44	23.935	44	43	84	W.	14	.98	....	Hazy	....	Stratus	4-4	W.	....	....	....	Fair.
Base .		27.359	59	51	27.274	51	47	72	S. E.	4	.08	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	2 0 a. m.	23.995	58	45	23.937	45	44	92	W.	20	2.00	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base ...		27.315	61	50	27.255	51	47	75	S. E.	4	.08	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	3 0 a. m.	23.985	57	45	23.929	45	45	100	W.	22	2.42	....	Nimbus	4-4	Hidden	....	....	2.35 a. m.	....	....	Light rain.
Base .		27.315	61	51	27.255	51	49	89	S. E.	8	.32	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	4 0 a. m.	23.990	63	45	23.921	45	45	100	W.	26	3.38	....	Nimbus	4-4	Hidden	....	....	....	....	....	Light rain.
Base		27.330	60	51	27.213	51	49	86	S. E.	4	.08	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	5 0 a. m.	23.995	63	45	23.926	45	44	92	W.	25	3.12	....	Stratus	4-4	Hidden	....	....	....	4.32 a. m.	....	Cloudy.
Base .		27.325	60	50	27.239	50	48	86	S. E.	4	.08	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	6 0 a. m.	24.013	74	45	23.921	45	44	92	W.	18	1.62	...	Stratus	3-4	Hidden	....	....	....	....	....	Clearing.

Base...	7 0 a.m.	27.320	62	56	27.228	56	52	75	E.	4	.08		Stratus	2·4	Cirrus	1·4	W.				Fair.
Summit	7 57 a.m.	24.000	70	45	23.916	45	44	92	W.	24	2.88		Hazy		Cumulus	4·4	W.			.03	Cloudy.
Base...		27.300	61	56	27.210	56	52	75	S. E.	8	.32		Stratus	4·4	Hidden						Cloudy.
Summit	9 0 a.m.	23.985	65	45	23.912	45	44	92	W.	19	1.80		Stratus	4·4	Hidden						Cloudy.
Base ..		27.298	62	63	27.206	63	56	62	E.	2	.02		Hazy	0	Cirrus	2·4	W.				Fair.
Summit	10 0 a.m.	23.980	65	47	23.907	47	46	92	W.	25	3.12		Stratus	4·4	Hidden						Cloudy.
Base...		27.290	66	70	27.189	70	60	53	S. W.	4	.08		Hazy	0	Cirrus	2·4	W.				Fair.
Summit	11 0 a.m.	23.971	66	46	23.896	46	45	92	W.	34	5.78		Hazy		Cumulus	2·4	W.				Fair.
Base...		27.289	68	71	27.182	71	61	51	S.	6	.18		Cumulus	1·4	Cirrus	2·4	W.				Fair.
Summit	12 0 m ..	23.970	67	48	23.892	48	47	92	W.	40	8.00		Hazy		Cumulus	2·4	W.				Fair.
Base...		27.273	70	74	27.161	74	62	47	W.	8	.32		Cumulus	1·4	Cirrus	2·4	W.				Fair.
Summit	1 0 p.m.	23.960	63	50	23.891	50	48	86	S. W.	30	4.50		Hazy		Cumulus	2·4	S. W.				Fair.
Base...		27.263	72	74	27.146	74	62	47	S.	6	.18		Stratus	3·4	Cirrus	1·4	W.				Cloudy.
Summit	2 0 p.m.	23.930	60	49	23.867	49	47	85	W.	20	2.00		Hazy		Cumulus	2·4	W.				Fair.
Base...		27.249	69	65	27.141	65	57	58	S. E.	4	.08		Stratus	2·4	Cirrus	1·4	W.				Cloudy.
Summit	3 0 p.m.	23.920	59	49	23.860	49	47	85	S.W.	29	4.20		Hazy		Cumulus	3·4	S. W.				Fair.
Base...		27.241	69	69	27.133	69	58	48	S. E.	4	.08		Stratus	2·4	Cirrus	1·4	W.				Cloudy.
Summit	4 0 p.m.	23.895	58	49	23.837	49	47	85	W.	36	6.48		Hazy		Cumulus	3·4	W.				Fair.
Base...		27.223	70	71	27.113	71	61	51	S.	4	.08		Stratus	2·4	Cirrus	1·4	W.				Cloudy.
Summit	4 57 p.m.	23.888	57	49	23.832	49	47	85	S. W.	30	4.50		Hazy		Cumulus	3·4	S. W.				Fair.
Base...		27.221	74	72	27.101	72	61	50	S. W.	4	.08		0	0	Cirrus	3·4	W.				Cloudy.
Summit	6 0 p.m.	23.874	56	49	23.820	49	46	77	W.	22	2.42		Hazy		Cirrus	1·4	W.				Fair.
Base...		27.219	75	70	27.097	70	59	48	S.W.	8	.32		Stratus	1·4	Cirrus	2·4	W.				Fair.
Summit	7 0 p.m.	23.890	59	48	23.830	48	46	85	W.	40	8.00		Hazy		Cirro-cum.	2·4	W.				Fair.
Base...		27.208	70	63	27.098	63	55	57	S.W.	4	.08		Stratus	1·4	Cirrus	1·4	W.				Fair.
Summit	8 0 p.m.	23.885	63	47	23.816	47	45	85	W.	24	2.88		Hazy		Cumulus	1·4	W.				Fair.
Base ..		27.188	64	54	27.092	54	50	74	S. E.	4	.08		Stratus	1·4	Cirrus	1·4	W.				Fair.
Summit	9 0 p.m.	23.874	67	47	23.896	47	45	85	W.	36	6.48		Hazy		Stratus	2·4	W.				Fair.
Base...		27.200	70	53	27.090	53	49	73	S. E.	8	.32		Stratus	2·4							Fair.
Summit	10 0 p.m.	23.875	70	47	23.791	47	45	85	W.	42	8.82		Hazy		Stratus	2·4	W.				Fair.
Base...		27.199	70	52	27.090	52	48	73	S. E.	4	.08		Stratus	1·4	0	0	0				Fair.
Summit	11 22 p.m.	23.869	72	47	23.781	47	45	85	W.	31	4.80		Stratus	2·4	0	0	0				Fair.
Base...		27.178	63	52	27.085	53	49	73	S. E.	4	.08		Stratus	2·4	0	0	0				Fair.
Summit	12 0 mid-night.	23.853	70	47	23.769	47	45	85	W.	37	6.84		Stratus	2·4	0	0	0				Fair.
Base...		27.167	63	52	27.074	52	49	73	S. E.	4	.08		Stratus	2·4	0	0	0				Fair.

Meteorological record for May 28, 1873.

Summit	1 0 a.m.	23.794	68	47	23.715	47	46	92	W.	34	5.78		Stratus	4·4	Hidden						Threatening.
Base..		27.165	65	53	27.067	53	50	79.8	S. E.	8	.32		Stratus	2·4	0	0	0				Fair.
Summit	2 0 a.m.	23.780	67	47	23.705	47	46	92	W.	50	12.50		Stratus	4·4	Hidden						Threatening.
Base...		27.145	67	52.5	27.042	53	50	79.8	S. E.	4	.08		Stratus	2·4	0	0	0				Fair.
Summit	3 0 a.m.	23.775	68	48	23.700	48	48	100	W.	60	18.00		Stratus	4·4	Hidden						Threatening.
Base...		27.140	66	53	27.040	53	50	79.8	S. E.	8	.32		Stratus	3·4	0	0	0				Cloudy.
Summit	4 0 a.m.	23.765	67	48	23.688	48	47	92	W.	56	15.68		Stratus	4·4	Hidden						Cloudy.
Base...		27.130	63	52	27.037	52	50	86.1	S. E.	4	.08		Stratus	4·4	Hidden						Cloudy.
Summit	5 0 a.m.	23.800	72	47	23.713	47	46	92	W.	48	11.52		Stratus	4·4	Hidden						Cloudy.
Base...		27.130	62	51.5	27.039	52	50	86.1	S. E.	8	.32		Hazy		Cirrus	2·4	0				Fair.

Meteorological record for May 28, 1873—Continued.

(Hourly observations.)

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer-readings corrected for temperature and instrumental error only.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commenc'd.	Ended.		
Summit	6 0 a. m.	23.800	71	48	23.715	48	47	92	W.	40	8.00	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27.125	60	54	27.039	54	52	86.7	S. E.	4	.04	....	Hazy	....	Cirrus	2-4	S. W.	....	....	....	Fair.
Summit	7 0 a. m.	23.812	71	49	23.727	49	48	93	W.	30	4.50	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27.115	59	54	27.031	54	52	86.7	S. E.	8	.32	....	Stratus	1-4	Cirrus	1-4	S. W.	....	....	....	Fair.
Summit	7 57 a. m.	23.800	69	48	23.719	48	47	92	W.	34	5.78	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27.125	62	65	27.034	66	59	63.6	W.	4	.08	....	Stratus	3-4	Cirrus	1-4	W.	....	....	....	Cloudy.
Summit	9 0 a. m.	23.790	64	48	23.719	48	48	100	W.	34	5.78	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27.141	66	70	27.041	70	62	61.3	S. W.	12	.72	....	Stratus	3-4	Cirrus	1-4	W.	....	....	....	Cloudy.
Summit	10 0 a. m.	23.780	61	47	23.716	47	46	92	W.	36	6.48	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27.157	68	70	27.052	70	62	61.3	S.	8	.32	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	11 0 a. m.	23.78	60	48	23.718	48	47	92	W.	30	4.50	....	Stratus	4-4	Hidden	....	....	....	....	....	Clearing.
Base		27.129	69	70	27.021	70	62	61.3	S. W.	4	.08	....	Stratus	4-4	Hidden	....	....	10.45 a. m.	....	....	Cloudy.
Summit	12 0 m.	23.785	59	47	23.725	47	47	100	W.	36	6.48	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27.129	69	68	27.021	68	61	64.7	W.	8	.32	....	Stratus	4-4	Hidden	....	....	....	11.30 a. m.	....	Cloudy.
Summit	1 0 p. m.	23.758	58	47	23.700	47	47	100	W.	34	5.78	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27.129	69	68	27.021	68	60	60.1	S. W.	8	.32	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	2 0 p. m.	23.755	57	47	23.699	47	47	100	W.	38	7.22	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27.120	69	68	27.012	68	60	60.1	N. W.	8	.32	....	Stratus	2-4	Cirrus	1-4	W.	....	....	....	Cloudy.
Summit	3 0 p. m.	23.753	60	47	23.691	47	47	100	W.	36	6.48	...	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27.108	69	70	27.000	70	61	57	N. W.	8	.32	....	Stratus	2-4	Cirrus	1-4	W.	....	....	....	Cloudy.
Summit	4 0 p. m.	23.765	66	47	23.690	47	47	100	W.	30	4.50	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27.100	71	70.5	26.988	70.5	62	59.3	N. W.	8	.32	....	Stratus	1-4	Cirrus	2-4	W.	....	....	....	Fair.
Summit	4 57 p. m.	23.785	70	47	23.702	47	47	100	W.	26	3.38	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27.100	70	68	26.990	68	60	60.1	N. W.	8	.32	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	6 0 p. m.	23.790	74	47	23.698	47	47	100	W.	34	5.78	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27.104	69	60	26.996	59	54	70.3	N. W.	6	.18	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	7 0 p. m.	23.735	70	46	23.652	46	46	100	W.	30	4.50	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27.129	68.5	64	27.023	64	57.5	65	W.	8	.32	....	Stratus	1-4	Cirrus	1-4	W.	....	....	....	Fair.
Summit	8 0 p. m.	23.735	68	45	23.656	45	45	100	W.	36	6.48	...	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27.120	66	57	27.020	57	53	73.2	N.	2	.02	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Summit	9 0 p. m.	23.710	68	44	23.631	44	44	100	W.	26	3.38	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.
Base		27.138	66.5	59	27.037	60	54	65.3	N. W.	2	.02	....	Stratus	2-4	0	0	0	....	....	....	Cloudy.
Summit	10 0 p. m.	23.725	69	42	23.644	42	42	100	W.	30	4.50	....	Stratus	4-4	Hidden	....	....	....	....	....	Cloudy.

Summit	12 0 mid-night.	23.720	68	41	23.641	41	41	100	W.	48	11.52	....	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Cloudy.
Base ...		27.159	63	57.5	27.066	58	52	64.1	N. W.	8	.32	....	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Cloudy.

Meteorological record for May 29, 1873.

Summit	1 0 a. m.	23.715	64	41	23.645	41	41	100	W.	50	12.50	....	Nimbus ...	4-4	Hidden ...	...	...	12 22 a. m.	...	...	Light rain.
Base ...		27.165	64	57	27.069	57	52	69.2	N. W.	4	.08	....	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Cloudy.
Summit	2 0 a. m.	23.763	68	40	23.684	40	40	100	W.	52	13.52	....	Nimbus ...	4-4	Hidden ...	...	...	...	...	...	Light rain.
Base ...		27.175	63	55	27.082	55	51	74.3	N. W.	4	.08	....	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Cloudy.
Summit	3 0 a. m.	23.786	71	40	23.701	40	40	100	W.	40	8.00	....	Nimbus ...	4-4	Hidden ...	...	...	...	...	...	Light rain.
Base ...		27.175	62	54	27.084	54	51	74.3	N	4	.08	....	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Cloudy.
Summit	4 0 a. m.	23.785	65	40	23.712	40	40	100	W.	36	6.48	....	Nimbus ...	4-4	Hidden ...	...	...	...	...	...	Light rain.
Base ...		27.180	61	54	27.092	54	52	86.7	W.	4	.08	....	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Cloudy.
Summit	5 0 a. m.	23.786	64	40	23.715	40	40	100	W.	38	7.22	....	Nimbus ...	4-4	Hidden ...	...	...	...	...	...	Light rain.
Base ...		27.205	62	51	27.114	51	48	79	S. W.	1	.01	....	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Cloudy.
Summit	6 0 a. m.	23.800	67	40	23.723	40	40	100	W.	30	4.50	...	Stratus ...	4-4	Hidden ...	...	...	...	5 26 a. m.	...	Cloudy.
Base ...		27.220	59	54	27.130	55	51.5	77.4	W.	4	.08	....	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Cloudy.
Summit	7 0 a. m.	23.810	60	40	23.748	40	39	91	W.	31	4.80	....	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Cloudy.
Base ...		27.225	59	54	27.141	54.5	51.5	80.3	W.	1	.01	....	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Cloudy.
Summit	7 57 a. m.	23.820	56	40	23.766	40	39	91	W.	28	3.92	....	Stratus ...	4-4	Hidden ...	...	...	...	...	.26	Cloudy.
Base ...		27.250	59	56	27.166	56	52	74.7	N. W.	4	.08	....	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Cloudy.
Summit	9 0 a. m.	23.824	57	39	23.768	39	38	91	W.	29	4.20	....	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Cloudy.
Base ...		27.273	60	58	27.186	58.5	53	67.2	N. W.	8	.32	....	Stratus ...	3-4	Hidden ...	...	...	...	...	...	Cloudy.
Summit	10 0 a. m.	23.830	56	39	23.776	39	38	91	W.	29	4.20	....	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Cloudy.
Base ...		27.277	61	61	27.187	61	53	55.3	W.	8	.32	....	Stratus ...	3-4	0	0	0	...	...	...	Cloudy.
Summit	11 0 a. m.	23.845	61	39	23.781	39	39	100	W.	30	4.50	....	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Cloudy.
Base ...		27.279	63.5	63	27.183	63	53	47	N. W.	8	.32	....	Stratus ...	3-4	0	0	0	...	...	...	Cloudy.
Summit	12 0 m ..	23.900	69	40	23.818	40	39	91	W.	24	2.88	....	0	0	Cumulus ..	4-4	W.	...	...	...	Fair.
Base ...		27.270	64	62	27.173	62	54	56.1	N. W.	8	.32	....	0	0	Cumulus ..	2-4	W.	...	...	...	Fair.
Summit	1 0 p. m.	23.915	68	41	23.835	41	40	91	W.	30	4.50	....	0	0	Cumulus ..	4-4	W.	...	...	...	Fair.
Base ...		27.273	66	64	27.171	64	53	43.2	N.	8	.32	....	0	0	Cumulus ..	2-4	N. W.	...	...	...	Fair.
Summit	2 0 p. m.	23.913	68	41	23.833	41	40	91	W.	24	2.88	....	0	0	Cumulus ..	2-4	W.	...	...	...	Fair.
Base ...		27.273	67	68	27.168	68	57	46.7	N.	8	.32	....	0	0	Cumulus ..	2-4	N. W.	...	...	...	Fair.
Summit	3 0 p. m.	23.905	66	41	23.830	41	40	91	W.	18	1.62	....	0	0	Cumulus ..	2-4	W.	...	...	...	Fair.
Base ...		27.280	69	67.5	27.170	68	57	46.7	S. W.	8	.32	....	0	0	Cumulus ..	2-4	N. W.	...	...	...	Fair.
Summit	4 0 p. m.	23.900	62	42	23.833	42	40	83	W.	20	2.00	....	0	0	Cumulus ..	1-4	W.	...	...	...	Fair.
Base ...		27.280	72	67.5	27.163	68	57	46.7	N. W.	8	.32	....	0	0	Cir-cum ...	2-4	N. W.	...	...	...	Fair.
Summit	4 57 p. m.	23.910	64	42	23.839	42	41	91	W.	20	2.00	....	0	0	Cumulus ..	1-4	W.	...	...	...	Fair.
Base ...		27.288	72	65	27.171	65	55	46.8	W.	8	.32	....	0	0	Cirrus	2-4	N. W.	...	...	...	Fair.
Summit	6 0 p. m.	23.900	66	42	23.825	42	40	83	W.	24	2.88	....	0	0	Cumulus ..	1-4	W.	...	...	...	Fair.
Base ...		27.270	74	66	27.149	66	54	40.5	W.	8	.32	....	0	0	Cirrus	1-4	W.	...	...	...	Clear.
Summit	7 0 p. m.	23.905	62	42	23.838	42	41	91	W.	18	1.62	....	Hazy	....	Cumulus ..	1-4	W.	...	...	...	Fair.
Base ...		27.245	68	57	27.140	57	52	69.2	N.	4	.08	....	Stratus ...	1-4	Cumulus ..	1-4	N. W.	...	...	...	Fair.
Summit	8 0 p. m.	23.890	64	42	23.819	42	41	91	W.	12	.72	....	0	0	Cumulus ..	1-4	W.	...	...	...	Fair.
Base ...		27.222	63	52	27.129	53	49	73.3	N. E.	4	.08	....	Stratus ...	1-4	0	0	0	...	...	...	Clear.
Summit	9 0 p. m.	23.865	67	42	23.788	42	41	91	N. W.	14	.98	....	0	0	0	0	0	...	...	...	Clear.
Base ...		27.226	63	51	27.133	52	48	72.7	N. E.	4	.08	....	Stratus ...	3-4	Hidden ...	...	...	...	...	...	Cloudy.

Meteorological record for May 29, 1873—Continued.

(Hourly observations.)

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer-readings corrected for temperature and instrumental error only.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		
Summit	10 0 p. m.	23. 865	67	42	23. 788	43	41	91	N. W.	17	1. 44		0	0	0	0	0				Clear.
Base		27. 202	61	51	27. 114	52	48	72. 7	N. E.	4	. 08		Stratus	4-4	Hidden						Cloudy.
Summit	11 22 p. m.	23. 810	66	41	23. 735	41	40	91	N. W.	36	6. 48		Stratus	4-4	Hidden						Cloudy.
Base		27. 2[illegible]	60	51	27. 123	52	48	72. 7	N. E.	2	. 02		Stratus	4-4	Hidden						Cloudy.
Summit	12 0 midnight.	23. 796	66	40	23. 721	40	39	91	N. W.	36	6. 48		Stratus	4-4	Hidden						Cloudy.
Base		27. 200	60	54	27. 114	55	51	74. 3	E.	4	. 08		Stratus	4-4	Hidden						Cloudy.

Meteorological record for May 30, 1873.

Summit	1 0 a. m.	23. 792	71	40	23. 707	40	39	91	N. W.	30	4. 50		Stratus	4-4	Hidden						Cloudy.
Base		27. 210	58	50	27. 129	50	48. 5	89. 2	S.	4	. 02		Stratus	4-4	Hidden						Cloudy.
Summit	2 0 a. m.	23. 760	71	40	23. 675	40	39	91	N. W.	28	3. 92		Stratus	4-4	Hidden						Threatening.
Base		27. 212	58	48. 5	27. 131	48. 5	47	88. 8	S. W.	4	. 02		Stratus	4-4	Hidden						Cloudy.
Summit	3 0 a. m.	23. 750	70	40	23. 667	40	40	100	N. W.	29	4. 20		Nimbus	4-4	Hidden			2 10 a. m.			Heavy rain.
Base		27. 210	57	46. 5	27. 131	46. 5	46	96. 1	W.	6	. 18		Stratus	4-4	Hidden						Cloudy.
Summit	4 6 a. m.	23. 685	64	36	23. 615	36	36	100	N.	40	8. 00		Nimbus	4-4	Hidden						Heavy rain.
Base		27. 210	56	43. 5	27. 134	43. 5	43	95. 8	N. W.	6	. 18		Nimbus	4-4	Hidden						Light rain.
Summit	5 0 a. m.	23. 675	63	34	23. 607	34	34	100	N.	50	12. 50		Nimbus	4-4	Hidden						Heavy rain.
Base		27. 215	56	40	27. 139	40. 5	40	95. 5	W.	6	. 18		Foggy		Hidden						Foggy.
Summit	6 0 a. m.	23. 700	66	32	23. 626	32	31	89	N.	60	18. 00		Stratus	3-4	Hidden				5 12 a. m.		Clearing.
Base		27. 245	54	37	27. 173	37	36. 5	95. 1	S. W.	4	. 08		Foggy		Hidden						Foggy.
Summit	7 0 a. m.	23. 710	72	28	23. 623	28	26	77	N. W.	66	21. 78		Cumulus	2-4	0	0	0				Fair.
Base		27. 269	59	37	27. 206	37	35. 5	76. 5	S. E.	4	. 08		Stratus	4-4	Hidden						Cloudy.
Summit	7 57 a. m.	23. 740	72	26	23. 654	26	21	76	N. W.	50	12. 50		Cumulus	1-4	0	0	0			. 45	Fair.
Base		27. 288	51. 5	38	27. 222	39	37	81. 6	N.	4	. 08		Nimbus	4-4	Hidden			7 30 a. m.			Sleeting.
Summit	9 0 a. m.	23. 713	71	26	23. 628	26	24	76	N. W.	48	11. 52		Cumulus	1-4	0	0	0				Fair.
Base		27. 284	51	39	27. 219	39	36	72. 6	N. E.	4	. 08		Stratus	4-4	Hidden				8 20 a. m.		Cloudy.
Summit	10 0 a. m.	23. 722	64	26	23. 651	26	24	76	N. W.	44	9. 68		Stratus	4-4	Hidden						Cloudy.
Base		27. 289	54	41	27. 216	41. 5	38	70. 3	N.	6	. 18		Stratus	3-4	0	0	0				Cloudy.

Summit	1 0 p. m.	23.784	55	27	23.732	27	25	77	N. W.	29	4.20	....	Hazy	....	0	0	0	....	....	....	Clear.
Base...		27.313	58	50	27.230	50	41	78.6	N.	8	.32	....	Stratus ...	1-4	0	0	0	....	....	....	Clear.
Summit	2 0 p. m.	23.780	55	27	23.728	27	25	77	N. W.	24	2.88	....	Hazy	....	0	0	0	....	....	....	Clear.
Base...		27.322	61	50	27.232	50	42	45	N. W.	8	.32	....	Stratus ...	1-4	0	0	0	....	....	....	Clear.
Summit	3 0 p. m.	23.820	66	28	23.745	28	27	89	N. W.	24	2.88	....	Hazy	....	0	0	0	....	....	....	Clear.
Base...		27.339	64	50	27.242	50	42	45	N.	8	.32	....	Stratus ...	1-4	0	0	0	....	....	....	Clear.
Summit	4 0 p. m.	23.845	69	28	23.764	28	26	77	N. W.	18	1.62	....	Hazy	....	Cumulus ..	1-4	N. W.	....	....	....	Fair.
Base...		27.350	65	49	27.250	49	42	50.5	N.	8	.32	....	Stratus ...	1-4	0	0	0	....	....	....	Fair.
Summit	4 57 p. m.	23.850	71	27	23.765	27	25	77	N. W.	20	2.00	....	Hazy	....	Cumulus ..	1-4	N. W.	....	....	....	Fair.
Base...		27.381	68.5	48	27.273	48	41	49.4	W.	8	.32	....	Stratus ...	2-4	0	0	0	....	....	....	Fair,
Summit	6 0 p. m.	23.870	69	26	23.788	26	25	88	N. W.	31	4.80	....	Hazy	....	Cumulus ..	2-4	N. W.	....	....	....	Fair.
Base...		27.401	65	42.5	27.301	42.5	36.5	50.5	N. W.	8	.32	....	Stratus ...	3-4	0	0	0	....	....	....	Cloudy.
Summit	7 0 p. m.	23.890	67	24	23.812	24	23	87	N. W.	25	3.12	....	Hazy	....	Cumulus ..	3-4	N. W.	....	....	....	Fair.
Base...		27.400	58	41.5	27.317	41.5	36	54	N. W.	8	.32	....	Stratus ...	3-4	0	0	0	....	....	....	Cloudy.
Summit	8 0 p. m.	23.870	61	24	23.806	24	23	87	N.	36	6.48	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Base...		27.412	57	41	27.332	41	36	56.7	E.	4	.08	....	Stratus ...	3-4	0	0	0	....	....	....	Cloudy.
Summit	9 0 p. m.	23.880	66	24	23.805	24	23	87	N.	25	3.12	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Base...		27.436	57	39.5	27.356	39.5	35	59.5	E.	4	.08	....	Stratus ...	3-4	0	0	0	....	....	....	Cloudy.
Summit	10 0 p. m.	23.900	71	24	23.814	24	23	87	N.	40	8.00	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Base...		27.456	57	39	27.376	40	34.5	51.6	N. W.	8	.32	....	Stratus ...	3-4	0	0	0	....	....	....	Cloudy.
Summit	11 0 p. m.	23.895	61	24	23.830	24	23	87	N. W.	56	15.68	....	0	0	0	0	0	....	....	....	Clear.
Base...		27.452	52	35.5	27.384	36	32	61	W.	4	.08	....	Stratus ...	1-4	0	0	0	....	....	....	Clear.
Summit	12 0 mid-night.	23.860	69	24	23.779	24	23	87	N. W.	60	18.00	....	0	0	0	0	0	....	....	....	Clear.
Base...		27.452	52	32.5	27.384	33.5	29	56.4	N. W.	4	.08	....	Stratus ...	1-4	0	0	0	....	....	....	Clear.

Meteorological record for May 31, 1873.

Summit	1 0 a. m.	23.890	63	24	23.821	24	23	87	N. W.	55	15.12	....	0	0	0	0	0	....	....	....	Clear.
Base...		27.454	48	30.5	27.396	30	28	78.2	N. E.	3	.04	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Summit	2 0 a. m.	23.882	61	18	23.804	18	16	68	N. W.	54	14.58	....	0	0	0	0	0	....	....	....	Clear.
Base...		27.469	47	29.5	27.413	29	27.5	83.1	N. E.	2	.02	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Summit	3 0 a. m.	23.876	65	18	23.803	18	16	68	N. W.	36	6.48	....	0	0	0	0	0	....	....	....	Clear.
Base...		27.468	46	30	27.415	31	28	68.5	E.	1	.01	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Summit	4 0 a. m.	23.876	65	18	23.803	18	16	68	N. W.	40	8.00	....	0	0	0	0	0	....	....	....	Clear.
Base...		27.468	45	29	27.417	30	28	78.2	S. E.	1	.01	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Summit	5 0 a. m.	23.897	61	18	23.832	18	16	68	N. W.	48	11.52	....	0	0	0	0	0	....	....	....	Clear.
Base...		27.498	43.5	29	27.451	30	28	78.2	S. E.	1	.01	....	Stratus ...	3-4	0	0	0	....	....	....	Fair.
Summit	6 0 a. m.	23.925	57	18	23.869	18	16	68	N. W.	30	4.50	....	0	0	0	0	0	....	....	....	Clear.
Base...		27.512	45	30	27.461	30.5	28	73.3	S. E.	1	.01	....	Stratus ...	3-4	0	0	0	....	....	....	Fair.
Summit	7 0 a. m.	23.975	72	19	23.890	19	17	69	N. W.	24	2.88	....	0	0	0	0	0	....	....	....	Clear.
Base...		27.543	46	35	27.490	36	30	46.2	N.	3	.04	....	Stratus ...	1-4	Cumulus ..	1-4	N.	....	....	....	Fair.
Summit	7 57 a. m.	24.013	72	21	23.925	21	19	71	N. W.	29	4.20	...	0	0	0	0	0	....	....	....	Clear.
Base...		27.552	46.5	37	27.498	37	31	47.6	W.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	9 0 a. m.	23.956	63	24	23.887	24	22	74	N. W.	22	2.42	....	0	0	0	0	0	....	....	....	Clear.
Base...		27.564	59.5	40	27.500	41	34	40.7	N.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	10 0 a. m.	24.005	63	26	23.936	26	24	76	N. W.	36	6.48	....	0	0	0	0	0	....	....	....	Clear.
Base...		27.568	55	44	27.493	45	37	38.6	S. W.	4	.08	....	0	0	0	0	0	....	....	....	Clear.

Meteorological record for May 31, 1873—Continued.

(Hourly observations.)

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.		
Summit	11 0 a. m.	24.036	59	28	23.976	28	26	78	N. W.	40	8.00	....	Hazy	....	0	0	0	....	....	....	Clear.
Base...		27.570	55	46	27.495	47	38	34.4	W.	8	.32	....	0	0	0	0	0	....	....	....	Clear.
Summit	12 0 m..	24.026	59	30	23.966	30	28	78	N. W.	36	6.48	....	Hazy	....	0	0	0	....	....	....	Clear.
Base...		27.571	57	50	27.491	51	40	37.3	N. W.	8	.32	....	0	0	0	0	0	....	....	....	Clear.
Summit	1 0 p. m.	24.032	56	31	23.978	31	28	68	N. W.	28	3.92	....	Hazy	....	0	0	0	....	....	....	Clear.
Base...		27.559	60	54	27.472	54	43	32	N.	8	.32	....	0	0	0	0	0	....	....	....	Clear.
Summit	2 0 p. m.	24.060	60	32	23.997	32	29	69	N. W.	30	4.50	....	Hazy	....	0	0	0	....	....	....	Clear.
Base...		27.560	62	54.5	27.468	54.5	43	30	N. W.	8	.32	....	0	0	0	0	0	....	....	....	Clear.
Summit	3 0 p. m.	24.070	70	33	23.986	33	30	69	W.	24	2.88	....	Hazy	....	0	0	0	....	....	....	Clear.
Base...		27.560	63.5	55.5	27.464	56	45	34.6	N.	8	.32	....	0	0	0	0	0	....	....	....	Clear.
Summit	4 0 p. m.	24.099	67	33	24.021	33	30	69	W.	24	2.88	....	Hazy	....	0	0	0	....	....	....	Clear.
Base...		27.560	65	55	27.460	56	45	34.6	W.	10	.50	....	Hazy	....	0	0	0	....	....	....	Clear.
Summit	4 57 p. m.	24.070	64	33	23.999	33	30	69	W.	18	1.62	....	Hazy	....	0	0	0	....	....	....	Clear.
Base...		27.561	68	55	27.456	55.5	44.5	34	W.	8	.32	....	Hazy	....	0	0	0	....	....	....	Clear.
Summit	6 0 p. m.	24.085	70	33	24.001	32	29	69	W.	20	2.00	....	Smoke	....	0	0	0	....	....	....	Clear.
Base..		27.563	67	54	27.458	54	43.5	34.8	W.	8	.32	....	Hazy	....	0	0	0	....	....	....	Clear.
Summit	7 0 p. m.	24.100	71	31	24.014	31	29	79	W.	24	2.88	....	Smoke	....	0	0	0	....	....	....	Clear.
Base...		27.563	63	49.5	27.468	49.5	42.5	51	W.	4	.08	....	Hazy	....	0	0	0	....	....	....	Clear.
Summit	8 0 p. m.	24.10	69	31	24.018	31	29	79	W.	20	2.00	....	Smoke	....	0	0	0	....	....	....	Clear.
Base...		27.555	58	43.5	27.472	44.5	38	49	N. E.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	9 0 p. m.	24.080	63	31	24.011	31	28	68	W.	16	1.28	....	Hazy	....	0	0	0	....	....	....	Clear.
Base...		27.551	60	41.5	27.464	42	37	57.7	N. E.	8	.32	....	0	0	0	0	0	....	....	....	Clear.
Summit	10 0 p. m.	24.080	61	32	24.015	32	30	79	W.	14	.98	....	Hazy	....	0	0	0	....	....	....	Clear.
Base ..		27.549	59	42	27.464	41	37	65.3	N. E.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	11 0 p. m.	24.090	70	31	24.006	31	29	79	W.	18	1.62	....	Hazy	....	0	0	0	....	....	....	Clear.
Base ..		27.545	58	41.5	27.467	41	36.5	60.9	E.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	12 0 midnight.	21.090	66	31	24.015	31	29	78	W.	20	2.00	....	Hazy	....	0	0	0	....	....	....	Clear.
Base...		27.540	55	41	27.460	41.5	37	61.4	E.	4	.08	....	Stratus ...	1-4	0	0	0	....	....	....	Clear.

L.—Meteorological record for June 1, 1873.

(Hourly observations.)

NOTE.—Station No. 1, Summit of Mount Washington. Elevation of barometer above sea-level, 6,285.4 feet; **Station No. 2, Above Jacob's Ladder.** Elevation of barometer above sea-level, 5,553.3 feet; Station No. 3, Waumbeck House. Elevation of barometer above sea-level, 4,058.7; **Station No. 4, Base of Mount Washington.** Elevation of barometer above sea-level, 2,898.3. The elevation of barometers above sea-level at Stations Nos. 2, 3, and 4 were calculated from the synchronous barometrical observation taken during the month of June, 1873. Barometer-readings corrected for temperature and instrumental error only.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comme'd.	Ended.		
	a. m.																				
Station 1...	1 0	24.065	65	31	23.992	31	29	79	W.	18	1.62	....	0	0	0	0	0	....	....	....	Clear.
2...		24.771	58.5	35.5	24.633	35	33	79.7	W.	8	.32	....	0	0	0	0	0	....	....	....	Clear.
3...		26.257	44	38	26.230	38	36	81.1	E.	6	.18	....	Hazy	....	0	0	0	....	....	....	Clear.
4...		27.521	55	40	27.446	41	38	73.8	N. E.	4	.08	....	Haze......	....	0	0	0	....	....	....	Clear.
Station 1...	2 0	24.041	65	31	23.972	31	29	79	W.	18	1.62	....	Haze	....	0	0	0	....	....	....	Clear.
2...		24.765	61.5	35	24.719	34.5	32.5	79.5	W.	12	.72	....	0	0	0	0	0	....	....	....	Clear.
3...		26.245	43	37	26.222	37	35	80.7	N. E.	2	.02	....	Hazy	....	0	0	0	....	....	....	Clear.
4...		27.512	53	39	27.442	40	36	64.5	E.	4	.08	....	Haze	0	0	0	0	....	....	....	Clear.
Station 1...	3 0	24.000	57	31	23.949	31	29	79	W.	30	4.50	....	0	0	Cirro-st ...	1-8	0	....	....	....	Clear.
2...		24.743	61	36	24.698	35.5	33	75	W.	16	1.28	....	Stratus ...	1-4	0	0	0	....	....	....	Clear.
3...		26.225	42	38	26.205	38	36	81.1	0	0	0	....	Hazy	....	0	0	0	....	....	....	Clear.
4...		27.482	53	39	27.412	40	36	64.5	E.	5	.12	....	Haze	....	0	0	0	....	....	....	Clear.
Station 1...	4 0	23.985	58	31	23.927	31	29	79	W.	36	6.48	....	0	0	0	0	0	....	....	....	Clear.
2...		24.735	64.5	35.5	24.784	35	33	79.7	W.	20	2.00	....	Stratus ...	1-4	0	0	0	....	....	....	Fair.
3...		26.215	42	38	26.195	38	36	81.1	N. E.	2	.02	....	Hazy	....	0	0	0	....	....	....	Clear.
4..		27.472	50.5	38.5	27.408	40	37	73.2	E.	5	.12	....	Haze	....	0	0	0	....	....	....	Clear.
Station 1...	5 0	23.985	64	32	23.914	32	30	79	W.	34	5.78	....	0	0	Cirrus	1-8	0	....	....	....	Clear.
2...		24.733	65	35.5	24.681	35.5	33.5	80	W.	25	3.12	...	Stratus ...	1-4	Cirrus	1-4	0	....	....	....	Fair.
3...		26.215	42	39	26.195	39	37	81.6	N. W.	1	.01	....	Hazy	....	Cirrus	1-4	0	....	....	....	Clear.
4...		27.473	50	39	27.410	39.5	36.5	72.9	E.	5	.12	....	Stratus ...	1-4	0	0	0	....	....	....	Fair.
Station 1...	6 0	24.005	71	33	23.919	33	31	79	W.	40	8.00	....	0	0	Cirrus	1-4	W.	....	....	....	Fair.
2...		24.715	61	37	24.672	36.5	34.5	80.5	W.	32	5.12	....	Hazy	....	Cirrus	1-4	W. s.	....	....	....	Fair.
3...		26.215	42	39	26.195	39	37	81.6	N. W.	1	.01	....	Hazy	....	Cirrus	1-4	0	....	....	....	Clear.
4...		27.473	51	42.5	27.408	43	38	58.7	E.	5	.12	....	Stratus ...	1-4	0	0	0	....	....	....	Fair.
Station 1...	7 0	23.975	76	34	23.878	34	31	69	W.	50	12.50	....	Stratus ...	1-4	0	0	0	....	....	....	Clear.
2...		24.685	53.5	37	24.658	36.5	34	75.6	W.	29	4.20	....	Hazy	....	Cirrus	1-4	0	....	....	....	Fair.
3...		26.200	41	41	26.182	41	38	73.8	W.	6	.18	....	Hazy	....	Hazy	....	....	....	....	....	Clear.
4...		27.470	52	47	27.402	48	42	56.3	E.	4	.08	....	Stratus ...	2-4	0	0	0	....	....	....	Fair.

Meteorological record for May 31, 1873—Continued.

(Hourly observations.)

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'd.	Ended.		
Summit	11 0 a. m.	24.036	59	28	23.976	28	26	78	N. W.	40	8.00	....	Hazy	....	0	0	0	....	....	....	Clear.
Base ...		27.570	55	46	27.495	47	38	34.4	W.	8	.32	....	0	0	0	0	0	....	....	....	Clear.
Summit	12 0 m ..	24.026	59	30	23.960	30	28	78	N. W.	36	6.48	....	Hazy	....	0	0	0	....	....	....	Clear.
Base ...		27.571	57	50	27.491	51	40	37.3	N. W.	8	.32	....	0	0	0	0	0	....	....	....	Clear.
Summit	1 0 p. m.	24.032	56	31	23.978	31	28	68	N. W.	28	3.92	....	Hazy	....	0	0	0	....	....	....	Clear.
Base ...		27.559	60	54	27.472	54	43	32	N.	8	.32	....	0	0	0	0	0	....	....	....	Clear.
Summit	2 0 p. m.	24.060	60	32	23.997	32	29	69	N. W.	30	4.50	....	Hazy	....	0	0	0	....	....	....	Clear.
Base ...		27.560	62	54.5	27.468	54.5	43	30	N. W.	8	.32	....	0	0	0	0	0	....	....	....	Clear.
Summit	3 0 p. m.	24.070	70	33	23.986	33	30	69	W.	24	2.88	....	Hazy	....	0	0	0	....	....	....	Clear.
Base ...		27.560	63.5	55.5	27.464	56	45	34.6	N.	8	.32	....	0	0	0	0	0	....	....	....	Clear.
Summit	4 0 p. m.	24.099	67	33	24.021	33	30	69	W.	24	2.88	....	Hazy	....	0	0	0	....	....	....	Clear.
Base ...		27.560	65	55	27.460	56	45	34.6	W.	10	.50	....	Hazy	....	0	0	0	....	....	....	Clear.
Summit	4 57 p. m.	24.070	64	33	23.999	33	30	69	W.	18	1.62	....	Hazy	....	0	0	0	....	....	....	Clear.
Base ..		27.56[illegible]	68	55	27.456	55.5	44.5	34	W.	8	.32	....	Hazy	....	0	0	0	....	....	....	Clear.
Summit	6 0 p. m.	24.085	70	32	24.001	32	29	69	W.	20	2.00	....	Smoke	....	0	0	0	....	....	....	Clear.
Base ..		27.564	67	54	27.458	54	43.5	34.8	W.	8	.32	....	Hazy	....	0	0	0	....	....	....	Clear.
Summit	7 0 p. m.	24.100	71	31	24.014	31	29	79	W.	24	2.88	....	Smoke	....	0	0	0	....	....	....	Clear.
Base ...		27.563	63	49.5	27.468	49.5	42.5	51	W.	4	.08	....	Hazy	....	0	0	0	....	....	....	Clear.
Summit	8 0 p. m.	24.10[illegible]	69	31	24.018	31	29	79	W.	20	2.00	....	Smoke	....	0	0	0	....	....	....	Clear.
Base ...		27.555	58	43.5	27.472	44.5	38	49	N. E.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	9 0 p. m.	24.0[illegible]0	63	31	24.011	31	28	68	W.	16	1.28	....	Hazy	....	0	0	0	....	....	....	Clear.
Base ...		27.551	60	41.5	27.464	42	37	57.7	N. E.	8	.32	....	0	0	0	0	0	....	....	....	Clear.
Summit	10 0 p. m.	24.080	61	32	24.015	32	30	79	W.	14	.98	....	Hazy	....	0	0	0	....	....	....	Clear.
Base ..		27.549	59	42	27.464	41	37	65.3	N. E.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	11 0 p. m.	24.090	70	31	24.006	31	29	79	W.	18	1.62	....	Hazy	....	0	0	0	....	....	....	Clear.
Base ..		27.545	58	41.5	27.467	41	36.5	60.9	E.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	12 0 midnight.	24.090	66	31	24.015	31	29	78	W.	20	2.00	....	Hazy	....	0	0	0	....	....	....	Clear.
Base ...		27.540	55	41	27.460	41.5	37	61.4	E.	4	.08	....	Stratus ...	1-4	0	0	0	....	....	....	Clear.

L.—*Meteorological record for June 1, 1873.*

(Hourly observations.)

NOTE.—Station No. 1, Summit of Mount Washington. Elevation of barometer above sea-level, 6,285.4 feet; **Station No. 2, Above Jacob's Ladder.** Elevation of barometer above sea-level, 5,553.3 feet; Station No. 3, Waumbeck House. Elevation of barometer above sea-level, 4,058.7; Station No. 4, Base of Mount Washington. Elevation of barometer above sea-level, 2,898.3. The elevation of barometers above sea-level at Stations Nos. 2, 3, and 4 were calculated from the synchronous barometrical observation taken during the month of June, 1873. Barometer-readings corrected for temperature and instrumental error only.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
	a. m.		Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comme'd.	Ended.		
Station 1...	1 0	24.065	65	31	23.992	31	29	79	W.	18	1.62	....	0	0	0	0	0	....	....	....	Clear.
2...		24.771	58.5	35.5	24.633	35	33	79.7	W.	8	.32	....	0	0	0	0	0	....	....	....	Clear.
3...		26.257	44	38	26.230	38	36	81.1	E.	6	.18	....	Hazy	....	0	0	0	....	....	....	Clear.
4...		27.521	55	40	27.446	41	38	73.8	N. E.	4	.08	....	Haze	....	0	0	0	....	....	....	Clear.
Station 1...	2 0	24.041	65	31	23.972	31	29	79	W.	18	1.62	....	Haze	....	0	0	0	....	....	....	Clear.
2...		24.765	61.5	35	24.719	34.5	32.5	79.5	W.	12	.72	....	0	0	0	0	0	....	....	....	Clear.
3...		26.245	43	37	26.222	37	35	80.7	N. E.	2	.02	....	Hazy	....	0	0	0	....	....	....	Clear.
4...		27.512	53	39	27.442	40	36	64.5	E.	4	.08	....	Haze	0	0	0	0	....	....	....	Clear.
Station 1...	3 0	24.000	57	31	23.949	31	29	79	W.	30	4.50	....	0	0	Cirro-st	1-8	0	....	....	....	Clear.
2...		24.743	61	36	24.698	35.5	33	75	W.	16	1.28	....	Stratus	1-4	0	0	0	....	....	....	Clear.
3...		26.225	42	38	26.205	38	36	81.1	0	0	0	....	Hazy	....	0	0	0	....	....	....	Clear.
4...		27.482	53	39	27.412	40	36	64.5	E.	5	.12	....	Haze	....	0	0	0	....	....	....	Clear.
Station 1...	4 0	23.985	58	31	23.927	31	29	79	W.	36	6.48	....	0	0	0	0	0	....	....	....	Clear.
2...		24.735	64.5	35.5	24.784	35	33	79.7	W.	20	2.00	....	Stratus	1-4	0	0	0	....	....	....	Fair.
3...		26.215	42	38	26.195	38	36	81.1	N. E.	2	.02	....	Hazy	....	0	0	0	....	....	....	Clear.
4...		27.472	50.5	38.5	27.408	40	37	73.2	E.	5	.12	....	Haze	....	0	0	0	....	....	....	Clear.
Station 1...	5 0	23.985	64	32	23.914	32	30	79	W.	34	5.78	....	0	0	Cirrus	1-8	0	....	....	....	Clear.
2...		24.733	65	35.5	24.681	35.5	33.5	80	W.	25	3.12	...	Stratus	1-4	Cirrus	1-4	0	....	....	....	Fair.
3...		26.215	42	39	26.195	39	37	81.6	N. W.	1	.01	....	Hazy	....	Cirrus	1-4	0	....	....	....	Clear.
4...		27.473	50	39	27.410	39.5	36.5	72.9	E.	5	.12	....	Stratus	1-4	0	0	0	....	....	....	Fair.
Station 1...	6 0	24.005	71	33	23.919	33	31	79	W.	40	8.00	....	0	0	Cirrus	1-4	W.	....	....	....	Fair.
2...		24.715	61	37	24.672	36.5	34.5	80.5	W.	32	5.12	....	Hazy	....	Cirrus	1-4	W. s.	....	....	....	Fair.
3...		26.215	42	39	26.195	39	37	81.6	N. W.	1	.01	....	Hazy	....	Cirrus	1-4	0	....	....	....	Clear.
4...		27.473	51	42.5	27.408	43	38	58.7	E.	5	.12	....	Stratus	1-4	0	0	0	....	....	....	Fair.
Station 1...	7 0	23.975	76	34	23.878	34	31	69	W.	50	12.50	....	Stratus	1-4	0	0	0	....	....	....	Clear.
2...		24.685	53.5	37	24.658	36.5	34	75.6	W.	29	4.20	....	Hazy	....	Cirrus	1-4	0	....	....	....	Fair.
3...		26.200	41	41	26.182	41	38	73.8	W.	6	.18	....	Hazy	....	Hazy	....	....	....	....	....	Clear.
4...		27.470	52	47	27.402	48	42	56.3	E.	4	.08	....	Stratus	2-4	0	0	0	....	....	....	Fair.

Meteorological record for May 31, 1873—Continued.

(Hourly observations.)

NOTE.—Elevation of barometer at summit above sea-level, 6,285.4 feet. Elevation of barometer at base above sea-level, 2,898.3 feet. Barometer readings corrected for temperature and instrumental error only.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'd.	Ended.		
Summit	11 0 a. m.	24.036	59	28	23.976	28	26	78	N. W.	40	8.00	....	Hazy	....	0	0	0	....	....	....	Clear.
Base...		27.570	55	46	27.495	47	38	34.4	W.	8	.32	....	0	0	0	0	0	....	....	....	Clear.
Summit	12 0 m..	24.026	59	30	23.966	30	28	78	N. W.	36	6.48	....	Hazy	....	0	0	0	....	....	....	Clear.
Base...		27.571	57	50	27.491	51	40	37.3	N. W.	8	.32	....	0	0	0	0	0	....	....	....	Clear.
Summit	1 0 p. m.	24.032	56	31	23.978	31	28	68	N. W.	28	3.92	....	Hazy	....	0	0	0	....	....	....	Clear.
Base...		27.559	60	54	27.472	54	43	32	N.	8	.32	....	0	0	0	0	0	....	....	....	Clear.
Summit	2 0 p. m.	24.060	60	32	23.997	32	29	69	N. W.	30	4.50	....	Hazy	....	0	0	0	....	....	....	Clear.
Base...		27.560	62	54.5	27.468	54.5	43	30	N. W.	8	.32	....	0	0	0	0	0	....	....	....	Clear.
Summit	3 0 p. m.	24.070	70	33	23.986	33	30	69	W.	24	2.88	....	Hazy	....	0	0	0	....	....	....	Clear.
Base..		27.560	63.5	55.5	27.464	56	45	34.6	N.	8	.32	....	0	0	0	0	0	....	....	....	Clear.
Summit	4 0 p. m.	24.099	67	33	24.021	33	30	69	W.	24	2.88	....	Hazy	....	0	0	0	....	....	....	Clear.
Base...		27.560	65	55	27.460	56	45	34.6	W.	10	.50	...	Hazy	....	0	0	0	....	....	....	Clear.
Summit	4 57 p. m.	24.070	64	33	23.999	33	30	69	W.	18	1.62	...	Hazy	....	0	0	0	....	....	....	Clear.
Base...		27.56	68	55	27.456	55.5	44.5	34	W.	8	.32	....	Hazy	....	0	0	0	....	....	....	Clear.
Summit	6 0 p. m.	24.085	70	32	24.001	32	29	69	W.	20	2.00	....	Smoke	....	0	0	0	....	....	....	Clear.
Base..		27.561	67	54	27.458	54	43.5	34.8	W.	8	.32	....	Hazy	....	0	0	0	....	....	....	Clear.
Summit	7 0 p. m.	24.100	71	31	24.014	31	29	79	W.	24	2.88	....	Smoke	....	0	0	0	....	....	....	Clear.
Base...		27.563	63	49.5	27.468	49.5	42.5	51	W.	4	.08	....	Hazy	....	0	0	0	....	....	....	Clear.
Summit	8 0 p. m.	24.10	69	31	24.018	31	29	79	W.	20	2.00	....	Smoke	....	0	0	0	....	....	....	Clear.
Base...		27.555	58	43.5	27.472	44.5	38	49	N. E.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	9 0 p. m.	24.080	63	31	24.011	31	28	68	W.	16	1.28	....	Hazy	....	0	0	0	....	....	....	Clear.
Base...		27.551	60	41.5	27.464	42	37	57.7	N. E.	8	.32	....	0	0	0	0	0	....	....	....	Clear.
Summit	10 0 p. m.	24.080	61	32	24.015	32	30	79	W.	14	.98	....	Hazy	....	0	0	0	....	....	....	Clear.
Base ..		27.549	59	42	27.464	41	37	65.3	N. E.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	11 0 p. m.	24.090	70	31	24.006	31	29	79	W.	18	1.62	....	Hazy	....	0	0	0	....	....	....	Clear.
Base ..		27.545	56	41.5	27.467	41	36.5	60.9	E.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Summit	12 0 midnight.	24.090	66	31	24.015	31	29	78	W.	20	2.00	....	Hazy	....	0	0	0	....	....	....	Clear.
Base...		27.540	55	41	27.460	41.5	37	61.4	E.	4	.08	....	Stratus	1-4	0	0	0	....	....	....	Clear.

L.—*Meteorological record for June 1, 1873.*

(Hourly observations.)

Note.—Station No. 1, Summit of Mount Washington. Elevation of barometer above sea-level, 6,285.4 feet; Station No. 2, Above Jacob's Ladder. Elevation of barometer above sea-level, 5,553.3 feet; Station No. 3, Waumbeck House. Elevation of barometer above sea-level, 4,058.7; Station No. 4, Base of Mount Washington. Elevation of barometer above sea-level, 2,898.3. The elevation of barometers above sea-level at Stations Nos. 2, 3, and 4 were calculated from the synchronous barometrical observation taken during the month of June, 1873. Barometer-readings corrected for temperature and instrumental error only.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comme'd.	Ended.		
	a. m.																				
Station 1...	1 0	24.065	65	31	23.992	31	29	79	W.	18	1.62	....	0	0	0	0	0	....	....	....	Clear.
2...		24.771	58.5	35.5	24.633	35	33	79.7	W.	8	.32	....	0	0	0	0	0	....	....	....	Clear.
3...		26.257	44	38	26.230	38	36	81.1	E.	6	.18	....	Hazy	....	0	0	0	....	....	....	Clear.
4...		27.521	55	40	27.446	41	38	73.8	N. E.	4	.08	....	Haze.....	....	0	0	0	....	....	....	Clear.
Station 1...	2 0	24.041	65	31	23.972	31	29	79	W.	18	1.62	....	Haze	....	0	0	0	....	....	....	Clear.
2...		24.765	61.5	35	24.719	34.5	32.5	79.5	W.	12	.72	....	0	0	0	0	0	....	....	....	Clear.
3...		26.245	43	37	26.222	37	35	80.7	N. E.	2	.02	....	Hazy	....	0	0	0	....	....	....	Clear.
4...		27.512	53	39	27.442	40	36	64.5	E.	4	.08	....	Haze	0	0	0	0	....	....	....	Clear.
Station 1...	3 0	24.000	57	31	23.949	31	29	79	W.	30	4.50	....	0	0	Cirro-st ...	1-8	0	....	....	....	Clear.
2...		24.743	61	36	24.698	35.5	33	75	W.	16	1.28	....	Stratus ...	1-4	0	0	0	....	....	....	Clear.
3...		26.225	42	38	26.205	38	36	81.1	0	0	0	....	Hazy	....	0	0	0	....	....	....	Clear.
4...		27.482	53	39	27.412	40	36	64.5	E.	5	.12	....	Haze	....	0	0	0	....	....	....	Clear.
Station 1...	4 0	23.985	58	31	23.927	31	29	79	W.	36	6.48	....	0	0	0	0	0	....	....	....	Clear.
2...		24.735	64.5	35.5	24.784	35	33	79.7	W.	20	2.00	....	Stratus ...	1-4	0	0	0	....	....	....	Fair.
3...		26.215	42	38	26.195	38	36	81.1	N. E.	2	.02	....	Hazy	....	0	0	0	....	....	....	Clear.
4...		27.472	50.5	38.5	27.408	40	37	73.2	E.	5	.12	....	Haze	....	0	0	0	....	....	....	Clear.
Station 1...	5 0	24.985	64	32	23.914	32	30	79	W.	34	5.78	....	0	0	Cirrus	1-8	0	....	....	....	Clear.
2...		24.733	65	35.5	24.681	35.5	33.5	80	W.	25	3.12	...	Stratus ...	1-4	Cirrus	1-4	0	....	....	....	Fair.
3...		26.215	42	39	26.195	39	37	81.6	N. W.	1	.01	....	Hazy	....	Cirrus	1-4	0	....	....	....	Clear.
4...		27.473	50	39	27.410	39.5	36.5	72.9	E.	5	.12	....	Stratus ...	1-4	0	0	0	....	....	....	Fair.
Station 1...	6 0	24.005	71	33	23.919	33	31	79	W.	40	8.00	....	0	0	Cirrus	1-4	W.	....	....	....	Fair.
2...		24.715	61	37	24.672	36.5	34.5	80.5	W.	32	5.12	....	Hazy	...	Cirrus	1-4	W. s.	....	....	....	Fair.
3...		26.215	42	39	26.195	39	37	81.6	N. W.	1	.01	....	Hazy	....	Cirrus	1-4	0	....	....	....	Clear.
4...		27.473	51	42.5	27.408	43	38	58.7	E.	5	.12	....	Stratus ...	1-4	0	0	0	....	....	....	Fair.
Station 1...	7 0	23.975	76	34	23.878	34	31	69	W.	50	12.50	....	Stratus ...	1-4	0	0	0	....	....	....	Clear.
2...		24.685	53.5	37	24.658	36.5	34	75.6	W.	29	4.20	....	Hazy	....	Cirrus	1-4	0	....	....	....	Fair.
3...		26.200	41	41	26.182	41	38	73.8	W.	6	.18	....	Hazy	....	Hazy	....	....	....	....	....	Clear.
4...		27.470	52	47	27.402	48	42	56.3	E.	4	.08	....	Stratus ...	2-4	0	0	0	....	....	....	Fair.

Meteorological record for June 1, 1873—Continued.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.		
	a. m.																				
Station 1	7 57	23.972	69	34	23.890	34	31	69	W.	50	12.50	....	Hazy	....	0	0	0	....	....	....	Clear.
2		24.690	65.5	38.5	24.637	38	35	71.9	W.	20	2.00	....	Stratus	1-4	0	0	0	....	....	....	Fair.
3		26.190	42.5	45	26.168	45	41	68.4	W.	12	.72	....	Hazy	....	Cirrus	1-4	0	....	....	....	Clear.
4		27.462	56	51	27.384	51.5	42.5	40.5	W.	8	.32	....	Stratus	1-4	0	0	0	....	....	....	Fair.
Station 1	9 0	23.958	68	36	23.878	36	31	53	W.	48	11.52	....	Hazy	....	0	0	0	....	....	....	Clear.
2		24.690	64	41	24.640	41	36	53.4	W.	35	6.12	....	Stratus	1-4	Cirrus	1-4	0	....	....	....	Fair.
3		26.190	46	47	26.160	47	41	55.4	N. W.	10	.50	....	Hazy	....	Cirrus	1-4	N. W.	....	....	....	Clear.
4		27.449	61	54	27.359	54.5	43	29.8	N. W.	10	.50	....	0	0	Cirrus	1-4	N. W.	....	....	....	Fair.
Station 1	10 0	23.950	65	36	23.877	36	31	53	W.	36	6.48	....	Hazy	....	0	0	0	....	....	....	Clear.
2		24.664	58.5	43	24.626	43	37.5	55	W.	46	10.58	....	Stratus	1-4	Cirrus	2-4	0	....	....	....	Fair.
3		26.189	46	50	26.159	50	43	51.5	W.	2	.02	....	Hazy	....	Cirrus	2-4	N. W.	....	....	....	Fair.
4		27.459	66	57	27.357	58	46	31.8	N. W.	10	.50	....	0	0	Cirrus	2-4	N. W.	....	....	....	Fair.
Station 1	11 0	23.900	65	38	23.827	38	32	46	W.	50	12.50	....	Hazy	....	Cirrus	1-4	W.	....	....	....	Fair.
2		24.653	58	45	24.616	44.5	39	56.5	W.	36	6.48	....	Stratus	1-4	Cirrus	2-4	W. s.	....	....	....	Fair.
3		26.180	50	52	26.141	52	45	53.5	W.	12	.72	....	Hazy	....	Cirrus	2-4	N. W.	....	....	....	Fair.
4		27.430	64	59	27.333	60	47	29.3	N. W.	12	.72	....	0	0	Cirrus	1-4	N. W.	....	....	....	Fair.
Station 1	12 m.	23.930	63	40	23.861	40	35	56	W.	35	6.12	....	Hazy	....	Cirrus	1-4	W.	....	....	....	Fair.
2		24.633	56	47	24.601	46	40.5	58	W.	36	6.48	....	Stratus	1-4	Cirrus	2 4	N. W.	....	....	....	Fair.
3		26.160	51	54	26.119	54	46	49.3	N. W.	12	.72	....	Hazy	....	Cirrus	2-4	N. W.	....	....	....	Fair.
4		27.393	64	61.5	27.296	62	49	31.7	N. W.	12	.72	1.55	Stratus	1-4	Cirrus	2-4	N. W.	....	....	....	Fair.
	p. m.																				
Station 1	1 0	23.938	64	40	23.864	40	35	56	W.	50	12.50	....	Hazy	....	Cirrus	1-4	W.	....	....	....	Fair.
2		24.640	60	47	24.599	46.5	40.5	54.8	W.	42	8.82	....	Stratus	1-4	Cirrus	2-4	N. W.	....	....	....	Fair.
3		26.150	53	53	26.104	53	44	42.3	N. W.	12	.72	....	Hazy	....	Cirrus	3-4	N. W.	....	....	....	Fair.
4		27.387	66	63	27.285	63	48	23.8	N. W.	16	1.28	....	0	0	Cir.-strat	4-4	N. W.	....	....	....	Cloudy.
Station 1	2 0	23.930	66	40	23.855	40	35	56	W.	46	10.58	....	Hazy	....	Cumulus	3 4	W.	....	....	....	Cloudy.
2		24.624	58	48	24.587	47.5	41	52.3	W.	36	6.48	....	Stratus	3-4	0	0	0	....	....	....	Fair.
3		26.140	53	54	26.094	54	45	43.4	N. W.	10	.50	....	Hazy	....	Cirrus	3-4	N. W.	....	....	....	Fair.
4		27.370	67	64.5	27.265	65	52	35.1	N. W.	12	.72	....	0	0	Cir.-strat	4-4	N. W.	....	....	....	Cloudy.
Station 1	3 0	23.925	69	41	23.843	41	36	44	W.	48	11.52	....	Hazy	....	Cirrus	2-4	W.	....	....	....	Fair.
2		24.589	58	50	24.552	49.5	43	54.3	W.	48	11.52	....	Stratus	1-4	Cirrus	2-4	W.	....	....	....	Fair.
3		26.170	54	57	26.082	57	47	41.1	N.	14	.98	....	Hazy	....	Cirrus	2-4	N. W.	....	....	....	Fair.
4		27.339	67	65	27.254	66	52	31.8	N. W.	14	.98	....	Haze	....	Cirrus	3-4	N. W.	....	....	....	Fair.
Station 1	4 0	23.900	70	42	23.816	42	33	42	W.	42	8.82	....	Smoky	....	Cumulus	1-4	W.	....	....	....	Fair.
2		24.588	58	50	24.551	50	42.5	48.2	W.	51	13.00	....	Stratus	1-4	Cirrus	2-4	W.	....	....	....	Fair.
3		26.102	58	58	26.041	58.5	47.5	37.6	N. W.	11	.6	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	Fair.
4		27.332	70	66	27.220	68	51.5	30.5	W.	16	1.28	....	Haze	....	Cirrus	3 4	N. W.	....	....	....	Fair.

Station 1...		23.885	68	42	23.805	42	35	42	W.	50	12.50	....	Smoky		Cirrus	1-4	W.				Fair.
2...	4 57	24.558	55	48.5	24.528	48	41	49.4	W.	47	11.04	....	Stratus	1-4	Cirrus	2-4	N. W.				Fair.
3...		26.105	64	55.5	26.034	56	45	34.6	N. W.	12	.72	....	Hazy		Cirro-cum.	3-4	N. W.				Fair.
4...		27.320	69	63.5	27.210	64	49.5	27.3	W.	12	.72	....	Stratus	2-4	Cirrus	1-4	N. W.				Fair.
Station 1...		23.886	67	41	23.808	41	34	41	W.	48	11.52	....	Smoky		Cirrus	1-4	W.				Fair.
2...	6 0	24.550	57	47	24.516	47.5	40	54.4	W.	41	8.40	....	Stratus	1-4	Cirrus	1-4	W.				Fair.
3...		26.105	63	54	26.036	54	44	37.6	N. W.	8	.32	....	Hazy		Cumulus	1-4	N. W.				Fair.
4...		27.320	66	61	27.218	61.5	48	28.8	N. W.	12	.72	....	Stratus	1-4	Cirrus	1-4	N. W.				Fair.
Station 1...		23.878	67	40	23.798	40	35	56	W.	34	5.78	....	Smoky		Cirrus	1-4	W.				Fair.
2...	7 0	24.580	56	46.5	24.548	47	40.5	51.8	W.	52	13.52	....	Stratus	2-4	Cirrus	1-4	W.				Fair.
3...		26.125	67	54	26.047	54	44	37.6	N. W.	8	.32	....	Hazy		Cirrus	1-4	N. W.				Fair.
4...		27.333	65	60	27.233	60	47	29.3	W.	16	1.28	....	Stratus	1-4	Cirrus	1-4	0				Fair.
Station 1...		23.825	68	39	23.746	39	35	63	W.	20	2.00	....	Hazy		Stratus	4-4	W.				Cloudy.
2...	8 0	24.584	57	44	24.550	44	39.5	63.6	W.	34	5.78	....	Nimbus	3-4	Hidden						Light rain.
3...		26.129	65	51	26.055	51	42	39.9	N.	12	.72	....	Nimbus	3-4	Hidden			8 0 p.m.			Light rain.
4...		27.315	68	58	27.208	58	46.5	37.9	N.	2	.02	....	Stratus	3-4	Cirrus	1-4	0				Cloudy.
Station 1...		23.930	65	38	23.857	38	34	63	W.	16	1.28	....	Hazy		Nimbus	4-4	W.	8 6 p.m.			Light rain.
2...	9 0	24.590	57	43	24.556	43	38.5	62.7	W.	34	5.78	....	Nimbus	3-4	Hidden			8 8 p.m.	8 25 p.m.		Threatening.
3...		26.123	67	49	26.045	49	41	43.9	N. W.	7	.24	....	Stratus	3-4	Hidden				8 15 p.m.		Cloudy.
4...		27.330	64	56	27.233	56.5	46	37.9	N.	2	.02	....	Stratus	3-4	0	0	0				Cloudy.
Station 1...		23.920	64	38	23.849	38	33	54	W.	20	2.00	....	Hazy		Nimbus	4-4	W.				Light rain.
2...	10 0	24.596	56	42.5	24.564	42.5	38	62.3	W.	36	6.48	....	Nimbus	4-4	Hidden						Threatening.
3...		26.115	63	50	26.046	50	43	51.5	N. W.	16	1.28	....	Nimbus	4-4	Hidden			10 0 p.m.			Light rain.
4...		27.3 0	64	56	27.233	56.5	46	37.9	W.	4	.08	....	Stratus	3-4	0	0	0				Cloudy.
Station 1...		23.900	64	37	23.829	37	34	62	W.	29	4.20	....	Hazy		Stratus	4-4	W.		10 10 p.m.	.16	Cloudy.
2...	11 22	24.597	54	41.5	24.569	41.5	38.5	73.9	W.	20	2.00	....	Nimbus	3-4	Hidden					.09	Cloudy.
3...		26.119	61	48	26.055	48	42	56.3	N. W.	13	.84	....	Hazy		Cirrus	3-4	N. W.		10 15 p.m.		Fair.
4...		27.335	62	55	27.243	55.5	46	42.2	N. W.	8	.32	....	Stratus	2-4	0	0	0				Fair.
Station 1...		23.920	63	37	23.851	37	34	62	W.	30	4.50	....	Hazy		Stratus	4-4	W.				Cloudy.
2...	12 0	24.605	57	39	24.571	39	37.5	86.1	N. W.	18	1.62	856	Nimbus	4-4	Hidden						Cloudy.
3...	mid-	26.109	57	45	26.054	45	41	68.4	N.	6	.18	189	Hazy		Cirrus	3-4	N. W.				Fair.
4...	night.	27.335	61	53	27.245	53	45.5	51.3	N. W.	4	.08	....	Stratus	1-4	0	0	0				Fair.

Meteorological record for June 2, 1873.

	a. m.																				
Station 1...		23.913	61	34	23.848	34	31	69	N.	18	1.62	....	Hazy		Stratus	2-4	N.				Fair.
2...	1 0	24.610	60	37	24.569	37	34	77.2	N. W.	15	1.12	....	Stratus	2-4	0	0	0				Fair.
3...		26.110	57	43	26.055	43.5	40	71.3	N.	6	.18	....	Stratus	1-4	0	0	0				Fair.
4...		27.352	59	47	27.267	48	43	63.1	N. E.	2	.02	....	Stratus	2-4	0	0	0				Fair.
Station 1...		23.890	62	33	23.823	33	30	69	N.	26	3.38	....	Hazy		Cumulus	1-8	N.				Fair.
2...	2 0	24.615	60	34.5	24.574	34	31	71.2	N.	16	1.28	....	Stratus	1-4	0	0	0				Fair.
3...		26.120	59	39.5	26.060	40	36.5	68.8	N.	5	.12	....	Stratus	1-4	0	0	0				Fair.
4...		27.362	59.5	45	27.276	45.5	41	65.0	N. W.	2	.02	....	0	0	0	0	0				Clear.
Station 1...		23.880	67	30	23.803	30	28	78	N.	30	4.50	...	Stratus	1-16	0	0	0				Clear.
2...	3 0	24.610	60	32.5	24.569	32	29	69.4	N.	16	1.28	....	0	0	0	0	0				Clear.
3...		26.120	57	38	26.065	38.5	35	67.7	N.	6	.18	....	0	0	0	0	0				Clear.
4...		27.365	57	40.5	27.285	41	37.5	69.5	N.	3	.04	....	Hazy		Hidden		0				Cloudy.

Meteorological record for June 2, 1873—Continued.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.		
	a. m.																				
Station 1	4 0	23.875	72	28	23.788	28	25	67	N.	28	3.92	....	Stratus	1-8	0	0	0	....	....	....	Clear.
2		24.610	56	30	24.578	28.5	27	72.5	N.	19	1.80	....	Stratus	1-4	0	0	0	....	....	....	Fair.
3		26.138	56	35.5	26.095	36	32.5	65.7	N. E.	6	.18	....	Hazy	....	0	0	0	....	....	....	Clear.
4		27.362	55.5	38.5	27.286	39	36	72.6	N.	3	.04	....	Stratus	1-4	0	0	0	....	....	....	Fair.
Station 1	5 0	23.886	70	28	23.797	28	24	57	N.	36	6.48	....	Stratus	1-8	0	0	0	....	....	....	Clear.
2		24.610	52	29.5	24.586	29	26	66.5	N.	19	1.80	....	Stratus	1-4	0	0	0	....	....	....	Clear.
3		26.152	55	33.5	26.101	34	31.5	74.1	N.	5	.12	....	Hazy	....	0	0	0	....	....	....	Clear.
4		27.412	54	37	27.339	38	35	71.9	N.	1	.01	....	Stratus	1-4	0	0	0	....	....	....	Fair.
Station 1	6 0	23.903	70	29	23.819	29	24	46	N.	58	16.82	....	Hazy	....	0	0	0	....	....	....	Clear.
2		24.615	53	31	24.589	31	29	78.8	N. W.	27	3.64	...	Hazy	....	0	0	0	....	....	....	Fair.
3		26.151	53	32.5	26.105	33	30	70.3	N. E.	7	.24	...	Hazy	....	0	0	0	....	....	....	Clear.
4		27.432	52.5	37.5	27.363	38.5	34	58.6	N.	1	.00	....	Stratus	1-4	0	0	0	....	....	....	Fair.
Station 1	7 0	23.925	70	30	23.841	30	27	68	N. W.	43	9.24	...	Hazy	....	0	0	0	....	....	....	Clear.
2		24.605	52	31.5	24.581	31	29	78.8	N.	23	2.64	...	Stratus	1-4	0	0	0	....	....	....	Clear.
3		26.162	51	33	26.121	33	31	80.0	N.	4	.08	....	Hazy	....	0	0	0	....	....	....	Clear.
4		27.432	52	41.5	27.361	42	36	50.0	N.	1	.00	...	Stratus	1-4	0	0	0	....	....	....	Fair.
Station 1	7 57	23.920	67	30	23.842	30	24	39	N. W.	36	6.48	....	Hazy	....	0	0	0	....	....	....	Clear.
2		24.648	52	32	24.624	33	30	79.4	W.	20	2.00	....	Stratus	1-4	0	0	0	....	....	....	Clear.
3		26.170	51	35.5	26.129	36	32	61.0	N. E.	6	.18	....	Stratus	1-4	0	0	0	....	....	....	Clear.
4		27.440	55	43.5	27.365	44	36	37.2	E.	6	.18	....	Stratus	1-4	0	0	0	....	....	....	Fair.
Station 1	9 0	23.920	72	31	23.832	31	24	30	N. W.	44	9.68	....	Hazy	....	Cirrus	1-4	N. W.	....	....	....	Fair.
2		24.670	62	32	24.625	32	29	69.4	N.	17	1.44	....	Stratus	1-4	0	0	0	....	....	....	Clear.
3		26.170	50.5	37	26.130	37	32	52.7	N. E.	6	.18	....	Stratus	1-4	0	0	0	....	....	....	Clear.
4		27.444	55	46	27.369	47	37	27.6	N.	6	.18	....	0	0	Cirrus	1-4	0	....	....	....	Clear.
Station 1	10 0	23.935	62	32	23.852	32	27	50	W.	31	4.80	...	Hazy	....	Cir.-strat	1-4	W.	....	....	....	Fair.
2		24.669	57	35	24.635	34.5	32	74.4	N.	17	1.44	...	Stratus	1-4	Cirrus	1-4	0	....	....	....	Fair.
3		26.187	51	41	26.146	41	35	48.8	N. W.	6	.18	....	Hazy	....	0	0	0	....	....	....	Clear.
4		27.439	55	49	27.364	50	40	32.2	W.	8	.32	....	0	0	Cirrus	1-4	0	....	....	....	Clear.
Station 1	11 0	23.935	57	31	23.879	34	29	51	N. W.	30	4.50	....	Hazy	....	Cir.-strat	1-4	W.	....	....	....	Fair.
1		24.650	51	39	24.629	39	37	81.6	N.	30	4.50	....	Stratus	1-4	0	0	0	....	....	....	Clear.
3		26.183	57	44	26.133	44	37	44.6	N. W.	7	.24	....	Hazy	....	0	0	0	....	....	....	Clear.
4		27.429	56	51	27.351	52	41	29.2	W.	12	.72	...	0	0	0	0	0	....	....	....	Clear.
Station 1	12 m.	23.928	55	35	23.876	35	30	52	N. W.	28	3.92	....	Smoky	....	0	0	0	....	....	....	Fair.
2		24.651	55	40	24.620	40	33.5	43.4	W.	22	2.42	....	Stratus	1-4	Cirrus	1-4	W. s.	....	....	....	Fair.
3		26.195	58	46	26.137	46	38	40.0	N. W.	8	.32	....	Stratus	1-4	0	0	0	....	....	....	Clear.
4		27.429	57	54	27.349	54	42	26.4	N. W.	14	.98	174	0	0	0	0	0	....	....	....	Clear.

	p. m.																				
Station 1...	1 0	23.895	54	35	23.845	35	29	45	N. W.	30	4.50	....	Smoky	....	0	0	0	....	....	....	Fair.
2...		24.669	65	42.5	24.617	42.5	35.5	27.5	W.	24	2.88	....	Stratus	1-4	Cirrus	1-4	W. s.	....	....	....	Fair.
3...		26.200	61	47	26.136	47	38	34.4	N. W.	7	.24	....	Stratus	1-4	0	0	0	....	....	....	Clear.
4...		27.436	60.5	57	27.348	57	43	20.1	N. W.	10	.50	....	0	0	Cirrus	1-8	N. W.	....	....	....	Clear.
Station 1...	2 0	23.905	55	36	23.853	36	30	45	N. W.	24	2.88	....	Smoky	....	0	0	0	....	....	....	Fair.
2...		24.660	59	43	24.621	43	34	28.3	N. W.	25	3.12	...	Stratus	1-4	0	0	0	....	....	....	Fair.
3...		26.195	63	48	26.126	48	39	35.9	N. W.	10	.50	....	Stratus	1-4	0	0	0	....	....	....	Clear.
4...		27.431	65	57	27.331	57	44	25.3	N. W.	14	.98	....	0	0	0	0	0	....	....	....	Clear.
Station 1...	3 0	23.940	71	36	23.854	36	30	45	N. W.	29	4.20	....	Smoky	....	Cirro-strat.	1-8	N. W.	....	....	....	Fair.
2...		24.659	58	45	24.622	44	35	29.9	W.	17	1.44	....	Stratus	1-4	Cirrus	1-4	W. S.	....	....	....	Fair.
3...		26.200	68	49	26.119	49	39.5	33.5	N. W.	10	.50	....	Stratus	1-4	Cirrus	1-4	N. W.	....	....	....	Clear.
4...		27.433	67	58	27.328	58.5	45	24.9	N. W.	12	.72	....	0	0	0	0	0	....	....	....	Clear.
Station 1...	4 0	23.940	69	35	23.858	35	30	52	N. W.	38	7.22	....	Smoky	....	Cirrus	2-4	N. W.	....	....	....	Fair.
2...		24.660	59	44	24.621	43.5	35	32.8	N. W.	24	2.88	....	Stratus	1-4	Cirrus	2-4	N.W. s.	....	....	....	Fair.
3...		26.190	64.5	48	26.118	48	39	35.9	N. W.	11	.60	....	Smoky	....	Cirrus	2-4	N. W.	....	....	....	Fair.
4...		27.429	67.5	58	27.323	58.5	45.5	27.4	N. W.	10	.50	....	Smoky	....	Cirrus	2-4	N.	....	....	....	Fair.
Station 1...	4 57	23.940	69	35	23.858	35	30	52	N. W.	36	6.48	...	Smoky	....	Cirrus	2-4	N. W.	....	....	....	Fair.
2...		24.661	57	42.5	24.624	42	34	34.5	N. W.	23	2.64	....	Stratus	1-4	Cirrus	2-4	N.W. s.	....	....	....	Fair.
3...		26.190	65	47	26.116	47	38	34.4	N. E.	8	.32	....	Smoky	....	Cirrus	2-4	N. W.	....	....	....	Fair.
4...		27.430	67	56	27.325	56.5	41.5	29.8	W.	8	.32	....	Smoky	....	Cirrus	2 4	N.	....	....	....	Fair.
Station 1...	6 0	23.950	68	34	23.870	34	31	69	N. W.	30	4.50	....	Smoky	....	Cirrus	3-4	N. W.	....	....	....	Fair.
2...		24.687	61	39.5	24.644	38	33	45	N. W.	23	2.64	....	Stratus	1-4	Cirrus	2-4	N.W. s.	....	....	....	Fair.
3...		26.200	63	44	26.131	44	36	37.2	N.	11	.60	....	Smoky	....	Cirro-cum	3-4	W.	....	....	....	Fair.
4...		27.448	63	52	27.353	52	42.5	38.1	N. W.	4	.08	....	Smoky	....	Cirrus	3-4	N. W.	....	....	....	Fair.
Station 1...	7 0	23.945	66	32	23.870	32	28	60	N. W.	31	4.80	....	Smoky	....	Cirrus	3-4	N. W.	....	....	....	Fair.
2...		24.691	55	35.5	24.661	35	31	62.8	N. W.	18	1.62	....	Stratus	2-4	Cirrus	1-4	N. W.	....	....	....	Smoky.
3...		26.220	67	42	26.142	42	35	42.0	N. E.	8	.32	....	Stratus	1-4	Cirrus	2-4	N.	....	....	....	Cloudy.
4...		27.453	59	50.5	27.368	51	41	33.7	N. W.	4	.08	....	Smoky	....	Cirrus	3-4	N.	....	....	....	Fair.
Station 1...	8 0	23.970	65	31	23.897	31	27	60	N. W.	44	9.68	....	Smoky	....	Stratus	3-4	N. W.	....	....	....	Cloudy.
2...		24.680	53	34	24.656	34	29	52.4	N. W.	19	1.88	....	Stratus	4-4	Hidden	....	....	....	....	....	Smoky.
3...		26.230	65	39	26.156	39	34	54.7	N. W.	6	.18	....	Stratus	2-4	Cirrus	2-4	N. W.	....	....	....	Cloudy.
4...		27.458	60	46.5	27.371	47	39.5	54.9	0	0	0	....	Smoky	....	Cirrus	2-4	0	....	....	....	Fair.
Station 1...	9 0	23.980	62	30	23.913	30	27	68	N.	24	2.68	....	Stratus	1-4	0	0	0	....	....	....	Fair.
2...		24.681	50	33.5	24.662	33	28.5	55.8	N. W.	24	2.88	....	Stratus	2-4	0	0	0	....	....	....	Fair.
3...		26.238	63	39.5	26.169	39.5	35	59.5	N.	6	.18	....	Stratus	1-4	0	0	0	....	....	....	Fair.
4...		27.478	61	42	27.388	42.5	37	54.5	N.	2	.02	....	Smoky	....	Hazy	....	0	....	....	....	Fair.
Station 1...	10 0	23.975	56	30	23.921	30	27	68	N.	26	3.38	....	Stratus	1-4	0	0	0	....	....	....	Fair.
2...		24.690	50	33	24.571	32.5	29	64.9	N. W.	18	1.62	....	Stratus	1-4	0	0	0	....	....	....	Clear.
3...		26.230	61	39	26.166	39	35	63.6	N. E.	4	.08	....	Stratus	1-4	0	0	0	....	....	....	Fair.
4...		27.470	56	40.5	27.392	41	36	56.7	0	0	0	....	Stratus	1-4	Cirrus	1-4	0	....	....	....	Fair.
Station 1...	11 22	23.980	48	29	23.943	29	27	78	N.	14	.98	....	Stratus	1-4	0	0	0	....	....	....	Fair.
2...		24.682	53	32.5	24.656	32.5	28	55.2	N. E.	20	2.00	....	Stratus	2-4	0	0	0	....	....	....	Fair.
3...		26.220	59	39	26.160	39	34.5	58.6	N. E.	6	.18	....	Stratus	1-4	Cirro-cum	1-4	N. W.	....	....	....	Fair.
4...		27.465	54	39.5	27.392	40	35.5	60.0	N.	4	.08	....	Stratus	1-4	0	0	0	....	....	....	Fair.
Station 1...	12 0 mid-night.	23.980	47	28	23.945	28	27	88	N.	18	1.62	...	Stratus	1-4	0	0	0	....	....	....	Fair.
2...		24.671	54	33	24.637	33	27.5	46.2	N. E.	17	1.44	496	Stratus	2-4	Cirrus	1-4	N.W. s.	....	....	....	Fair.
3...		26.215	59	39	26.155	39	34	54.7	N. E.	6	.18	167	Stratus	1-4	Cirro-cum	1-4	N. W.	....	....	....	Fair.
4...		27.460	54	41.5	27.387	42	36	50.0	N.	4	.08	....	0	0	Cirrus	2-4	0	....	....	....	Fair.

Meteorological record for June 3, 1873.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		
	a. m.																				
Station 1...	1 0	23.990	43	27	23.964	27	26	88	N.	20	2.00	....	Dense haze	....	Stratus ...	3-4	N.	....	....	....	Cloudy.
2...		24.680	55	32	24.650	32	28.5	63.9	N.E.	8	.32	....	Stratus ...	1-4	0	0	0	....	....	....	Fair.
3...		26.220	60	39	26.158	39	34.5	58.6	S.E.	5	.12	....	Stratus ...	1-4	0	0	0	....	....	....	Clear.
4...		27.452	52	39	27.382	40	35	55.7	N.	2	.02	....	0	0	Cirro-cum.	2-4	0	....	....	....	Fair.
Station 1...	2 0	23.990	50	28	23.949	28	26	77	N.	16	1.28	....	Dense haze	....	Stratus ...	3-4	N.	....	....	....	Cloudy.
2...		24.687	58	32.5	24.650	32	28	59.4	N.E.	8	.32	....	Stratus ...	1-4	0	0	0	....	....	....	Fair.
3...		26.205	55	37.5	26.154	38	34	62.8	E.	2	.02	....	Stratus ...	1-4	0	0	0	....	....	....	Fair.
4...		27.454	51	38	27.389	39	34	54.7	N.E.	4	.08	....	Stratus ...	2-4	0	0	0	....	....	....	Fair.
Station 1...	3 0	23.985	52	29	23.940	29	26	67	0	0	0	....	Hazy	....	Stratus ...	3-4	N.	....	....	....	Cloudy.
2...		24.690	60	32	24.649	32	28	59.4	N.E.	10	.50	....	Stratus ...	1-4	Cirrus ...	1-4	N. s.	....	....	....	Fair.
3...		26.200	54	36	26.152	36	32	61.0	0	0	0	....	Hazy	....	Cirro-strat.	2-4	N.W.	....	....	....	Fair.
4...		27.462	50	36	27.399	37	34	71.2	N.W.	3	.04	....	Stratus ...	3-4	Hidden ...	....	....	....	....	....	Cloudy.
Station 1...	4 0	23.988	55	29	23.936	29	26	67	0	0	0	....	Hazy	....	Stratus ...	3-4	N.	....	....	....	Cloudy.
2...		24.700	61	33	24.657	32.5	28	55.2	N.	10	.50	....	Stratus ...	2-4	Cirrus ...	1-4	N. s.	....	....	....	Smoky.
3...		26.227	55	36	26.176	36.5	33	66.1	0	0	0	....	Hazy	....	Cirro-strat.	2-4	N.W.	....	....	....	Fair.
4...		27.462	52	37	27.394	38	35.5	76.5	N.E.	3	.04	....	Stratus ...	1-4	Cirrus ...	2-4	N.W.	....	....	....	Cloudy.
Station 1...	5 0	24.022	65	29	23.949	29	26	67	N.	6	.18	....	Hazy	....	Stratus ...	3-4	N.W.	....	....	....	Cloudy.
2...		24.715	65	33	24.663	32.5	29	64.9	N.	4	.08	....	Stratus ...	3-4	Cirrus ...	1-4	N. s.	....	....	....	Smoky.
3...		26.230	53	36	26.181	36.5	32.5	61.4	0	0	0	....	Hazy	....	Cirrus ...	3-4	N.W.	....	....	....	Fair.
4...		27.472	48	36	27.414	37	34	71.2	N.	3	.04	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Station 1...	6 0	24.032	68	30	23.952	30	27	68	N.W.	8	.32	....	Hazy	....	Stratus ...	4-4	N.W.	....	....	....	Cloudy.
2...		24.715	63	34	24.667	33.5	30	65.9	N.	6	.18	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Smoky.
3...		26.233	52	38	26.189	38.5	34.5	63.2	0	0	0	....	Hazy	....	Hazy	....	....	....	....	....	Fair.
4...		27.474	49	40	27.414	41	36	56.7	N.E.	2	.02	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Station 1...	7 0	24.035	64	32	23.961	32	28	60	N.W.	12	.72	....	Hazy	....	Stratus ...	4-4	....	....	....	....	Cloudy.
2...		24.740	70	35.5	24.677	35	31	62.8	N.	12	.72	....	Stratus ...	4-4	0	0	....	....	....	....	Cloudy.
3...		26.238	56	39	26.185	40	36	64.5	0	0	0	....	Hazy	....	Cirrus ...	3-4	....	....	....	....	Fair.
4...		27.490	50	43	27.427	43	37.5	55	N.E.	1	.00	....	Hazy	....	Cirrus ...	3-4	....	....	....	....	Cloudy.
Station 1...	7 57	24.040	62	32	23.973	32	28	60	N.W.	6	.18	....	Hazy	....	Stratus ...	4-4	....	....	....	....	Cloudy.
2...		24.738	57	34.5	24.701	34	31	71.2	N.	6	.18	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		26.250	55	40	26.199	40.5	36.5	64.9	E.	1	.01	....	Hazy	....	Hazy	....	....	....	....	....	Fair.
4...		27.492	51	46	27.427	46	39	47.1	0	0	0	....	Hazy	....	Cirrus ...	3-4	N.W.	....	....	....	Cloudy.
Station 1...	9 0	24.041	65	33	23.971	33	29	61	0	0	0	....	Hazy	....	Stratus ...	4-4	....	....	....	....	Cloudy.
2...		24.738	61.5	38	24.694	37	33	61.9	W.	6	.18	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		26.250	54.5	42.5	26.200	42.5	37.5	58.2	N.E.	1	.01	....	Hazy	....	Hazy	....	....	....	....	....	Clear.
4...		27.500	54	48	27.427	48	40	42.6	W.	4	.08	....	Hazy	....	Cirro-strat.	4-4	....	....	....	....	Cloudy.

Station 1...	10 0	24.032	63	35	23.969	35	30	52	N.W.	10	.50	....	Hazy	....	Stratus ...	4-4	....	....	....	....	Cloudy.
2...		24.720	55	38	24.690	36	32.5	58.7	W.	7	.24	....	Stratus ..	3-4	Cirrus	1-4	0	....	....	....	Cloudy.
3...		26.245	56	44	26.192	44	39	59.7	N.W.	4	.08	....	Hazy	....	Hazy	....	....	....	....	....	Clear.
4...		27.492	56	52	27.414	52	43	41.1	W.	4	.09	....	Hazy	....	Hazy	....	....	....	....	....	Fair.
Station 1...	11 0	24.053	67	36	23.975	36	31	52	W.	10	.50	....	Hazy	....	Stratus ..	4-4	....	....	....	....	Cloudy.
2...		24.718	55	40	24.688	38	33	53.7	N.W.	12	.72	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		26.242	59.5	45	26.181	45	40	60.7	N.W.	4	.08	....	Stratus ...	1-4	Cirrus	1-4	N.	....	....	....	Fair.
4...		27.480	59	55	27.395	55	45	38.6	W.	4	.08	....	Smoky	....	Cirrus	4-4	....	....	....	....	Cloudy.
Station 1...	12 m.	24.035	64	37	23.964	37	31	45	W.	6	.18	....	Hazy	....	Stratus ...	4-4	....	....	....	....	Cloudy.
2...		24.730	67	43	24.674	43	36	43.3	W.	14	.98	....	Stratus ...	2-4	Cirrus	1-4	....	....	....	....	Fair.
3...		26.235	60	47.5	26.173	47.5	40	45.4	N.	5	.12	....	Hazy	....	Cirrus	1-4	N.	....	....	....	Fair.
4...		27.467	59	56.5	27.382	57	45	30.5	N.W.	4	.08	108	Hazy	....	Cirrus	3-4	N.W.	....	....	....	Cloudy.
Station 1...	p. m. 1 0	24.030	60	39	23.967	39	32	39	W.	14	.98	....	Hazy	....	Cirrus	2-4	W.	....	....	....	Fair.
2...		24.720	66	45	24.666	44	37	44.6	W.	8	.32	....	Stratus ...	3-4	Cirrus	1-4	....	....	....	....	Fair.
3...		26.229	62	49	26.162	49	41	43.9	N.W.	4	.08	....	Smoky	....	Cirrus	2-4	....	....	....	....	Fair.
4...		27.454	62	58	27.362	58	45	26.7	N.	8	.32	....	Hazy	....	Hazy	....	....	....	....	....	Cloudy; halo.
Station 1...	2 0	24.022	62	41	23.955	41	35	48	W.	4	.08	....	Hazy	....	Hazy	....	....	....	....	....	Fair.
2...		24.709	65	45	24.657	44	38	52.2	W.	5	.12	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		26.220	64	51	26.149	51	43	46.1	N.W.	2	.02	....	Smoky	....	Hazy	....	....	....	....	....	Clear.
4...		27.445	65	59	27.345	59.5	48.5	38.6	N.	6	.18	....	Hazy	....	Hazy	....	....	....	....	....	Fair; halo.
Station 1...	3 0	24.020	65	38	23.947	38	35	48	W.	4	.08	....	Hazy	....	Hazy	....	....	....	....	....	Fair.
2...		24.688	62	47	24.643	46	39	47.1	W.	10	.50	....	Stratus .	2-4	Hazy	....	....	....	....	....	Smoky.
3...		26.210	66.5	52	26.133	52	43.5	44.1	0	0	0	....	Smoky	....	Hazy	....	....	....	....	....	Clear.
4...		27.427	66	59	27.325	59.5	48.5	38.6	N.W.	6	.18	....	Hazy	....	Hazy	....	....	....	....	....	Fair; half halo.
Station 1...	4 0	24.025	65	39	23.952	39	35	63	W.	4	.08	....	Hazy	....	Hazy	....	....	....	....	....	Fair.
2...		24.678	57	47	24.644	46	39	47.1	W.	7	.24	....	Stratus ...	2-4	Cirrus	1-4	W. s.	....	....	....	Smoky.
3...		26.190	68.5	51	26.108	51	43.5	49.3	N.W.	2	.02	....	Smoky	....	Hazy	....	....	....	....	....	Clear.
4...		27.417	65	59	27.317	60	48	34.2	W.	4	.08	....	Hazy	....	Hazy	....	....	....	....	....	Fair.
Station 1...	4 57	23.994	65	38	23.921	38	34	63	W.	14	.98	....	Stratus ...	1-4	Hazy	....	....	....	....	....	Fair.
2...		24.669	61	46	24.626	45.5	39.5	52.8	W.	13	.84	....	Stratus ...	2-4	Cirrus	2-4	W. s.	....	....	....	Smoky.
3...		26.198	70	53	26.113	53	44	42.3	N.W.	1	.01	....	Smoky	....	Cirrus	2-4	....	....	....	....	Fair.
4...		27.410	64	57	27.313	57	47	41.1	W.	8	.32	....	Hazy	....	Cirrus	2-4	....	....	....	....	Fair.
Station 1...	6 0	23.980	67	37	23.902	37	33	62	W.	12	.72	....	Hazy	....	Cumulus ..	2-4	W.	....	....	....	Fair.
2...		24.670	69	43.5	24.609	43	38.5	62.8	W.	10	.50	....	Stratus ...	2-4	Cirrus	2-4	N. W. s.	....	....	....	Smoky.
3...		26.189	67	48	26.111	48	42	56.3	W.	1	.01	....	Smoky	....	Cirrus	3-4	N. W.	....	....	....	Fair.
4...		27.388	61	54.5	27.298	55	46	44.5	N.W.	4	.08	....	Hazy	....	Cirrus	2-4	N. W.	....	....	....	Fair.
Station 1...	7 0	23.980	67	36	23.902	36	33	70	W.	10	.50	....	Hazy	....	Cirro-cum	2-4	0	....	....	....	Fair.
2...		24.670	69	42	24.609	41.5	37	61.4	W.	4	.08	....	Stratus ...	3-4	Cirrus	1-4	N. W.	....	....	....	Smoky.
3...		26.160	64	46	26.089	46	41	61.7	0	0	0	....	Smoky	....	Cirrus	3-4	W.	....	....	....	Fair.
4...		27.380	58	53	27.297	53	45	48.3	0	0	0	....	Hazy	....	Cirro-cum	3-4	N. W.	....	....	....	Fair.
Station 1...	8 0	23.970	68	35	23.890	35	33	80	N.W.	12	.72	....	Stratus ...	1-4	Cumulus ..	1-4	N. W.	....	....	....	Fair.
2...		24.630	57	39	24.596	39	34.5	59	W.	1	.01	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Smoky.
3...		26.149	61	43	26.085	43	39	66.9	0	0	0	....	Stratus ...	3-4	Hidden ...	....	....	....	....	....	Cloudy.
4...		27.380	59	46.5	27.295	47	42	62.4	0	0	0	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Station 1...	9 0	23.968	65	36	23.895	36	33	70	W.	12	.72	....	Stratus ...	2-4	Cumulus ..	2-4	W.	....	....	....	Cloudy.
2...		24.660	75	39	24.586	39.5	35	59.5	N.	7	.24	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Smoky.
3...		26.149	62	43	26.082	43	40	75.0	0	0	0	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
4...		27.375	62	46	27.283	46	41	61.7	S.	2	.02	....	Stratus ...	1-4	Cirrus ..	2-4	N.	....	....	....	Cloudy.
Station 1...	10 0	23.960	62	35	23.893	35	30	52	W.	13	.84	....	Stratus .	3-4	Cirrus	1-4	....	....	....	....	Cloudy.
2...		24.658	70	42	24.595	42	34	34.3	N.W.	1	.01	....	Stratus ...	2-4	Cirrus ...	1-4	N. W.	....	....	....	Fair.
3...		26.130	61	42	26.066	42	39	74.4	0	0	0	....	Stratus .	1-4	Cirrus	1-4	N. W.	....	....	....	Fair.

Meteorological record for June 3, 1873—Continued.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.		
Station 1...	*p. m.* 11 22	23.965	64	37	23.894	37	33	62	W.	10	.50	....	Stratus ...	3-4	Cirrus	1-4	W.	....	....	....	Cloudy.
2...		24.613	63	41.5	24.595	41.5	36	53.4	S.W.	4	.08	....	Stratus ...	2-4	Cirrus	1-4	N. W.	....	....	....	Smoky.
3...		26.112	57	43.5	26.057	43.5	39.5	67.3	S.W.	1	.01	....	Stratus ...	4-4	Hidden ...	...	....	....	....	....	Cloudy.
4...		27.348	56	44	27.270	44	39.5	63.7	S.	4	.08	...	Stratus ...	2-4	Cirrus	2-4	....	....	....	....	Cloudy.
Station 1...	12 0 mid-night.	23.965	65	37	23.892	37	33	62	W.	12	.72	...	Stratus ...	4-4	Hidden ...	...	....	....	....	....	Cloudy.
2...		24.620	65	41	24.568	41	35.5	60	S.W.	13	.84	...	Stratus ...	4-4	Hidden ...	...	....	....	....	....	Cloudy.
3...		26.100	56	43.5	26.047	43.5	39.5	67.3	0	0	0	45	Stratus ...	4-4	Hidden ...	...	....	....	....	....	Cloudy.
4...		27.328	55	44	27.253	44.5	40	64.1	S.	2	.02	....	Stratus ...	3-4	Cirrus	1-4	....	....	....	....	Cloudy.

Meteorological record for June 4, 1873.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.		
Station 1...	*a. m.* 1 0	23.935	60	37	23.860	37	35	80	W.	14	.98	....	Stratus...	4-4	Hidden...	...	....	....	....	....	Cloudy.
2...		24.600	65	40.5	24.548	40	35	55.7	S.W.	13	.84	....	S.ratus ...	4-4	Hidden...	...	....	....	....	....	Threatening.
3...		26.098	57	41	26.043	41.5	41	72.0	W.	1	.01	....	Stratus...	4-4	Hidden...	...	....	....	....	....	Threatening.
4...		27.322	55	39.5	27.247	40.5	37	69.2	E.	2	.02	....	Stratus...	1-4	Cirrus ...	2-4	....	....	....	....	Cloudy.
Station 1 ..	2 0	23.928	71	36	23.858	36	35	90	W.	12	.72	....	Stratus...	4-4	Hidden...	...	....	....	....	....	Cloudy.
2...		24.583	62	41	24.528	40.5	36	60.5	S.W.	12	.72	....	Nimbus ...	4-4	Hidden...	...	....	1.15 a. m.	....	....	Light rain.
3...		26.066	58	45	26.011	45.5	42	72.6	W.	1	.01	...	Nimbus ...	4-4	Hidden...	...	....	1.25 a. m.	....	....	Light rain.
4 ..		27.291	55	44.5	27.219	45.5	41	65.0	S.E.	3	.04	...	Stratus...	3-4	Cirrus...	1-4	....	....	....	....	Cloudy.
Station 1 ..	3 0	23.906	71	36	23.808	36	36	100	W.	18	1.62	...	Nimbus ...	4-4	Hidden...	...	....	2.35 a. m.	....	....	Light rain.
2 ..		24.565	60	40	24.518	39.5	38	86.3	W.	13	.84	...	Nimbus ...	4-4	Hidden...	...	....	....	....	....	Light rain.
3 ..		26.031	56	44.5	25.978	44.5	42	79.8	N.W.	2	.02	...	Nimbus ...	4-4	Hidden...	...	....	....	....	....	Light rain.
4 ..		27.281	55	44	27.209	45	42	76.2	S.	3	.01	...	Nimbus ...	4-4	Hidden...	...	....	2.30 a. m.	....	....	Light rain.
Station 1...	4 0	23.880	71	36	23.794	36	36	100	W.	24	2.88	...	Nimbus ...	4-4	Hidden...	...	....	....	....	....	Light rain.
2...		24.523	54	38.5	24.495	38	37	90.5	S.W.	16	1.28	...	Nimbus ...	4-4	Hidden...	...	....	....	....	....	Light raib.
3...		26.035	58	43	25.977	43.5	42	87.5	W.	1	.01	....	Nimbus ...	4-4	Hidden...	...	....	....	....	....	Light rain.
4...		27.268	55	44.5	27.193	44.5	42.5	83.8	S.	2	.02	...	Nimbus ...	4-4	Hidden...	...	....	....	....	....	Light rain.
Station 1 ..	5 0	23.870	66	36	23.775	36	36	100	W.	20	2.00	....	Nimbus ...	4-4	Hidden...	...	....	....	....	....	Light rain.
2 ..		24.410	53	39	24.461	39	38	90.7	W.	18	1.62	....	Nimbus ...	4-4	Hidden...	...	....	....	....	....	Light rain.
3...		26.010	57	43	25.955	43	42	91.6	S.	4	.08	...	Nimbus ...	4-4	Hidden...	...	....	....	....	....	Light rain.
4...		27.262	54	43	27.189	44	42	83.6	S.	4	.08	....	Nimbus ...	4-4	Hidden...	...	....	....	....	....	Light rain.
Station 1...	6 0	23.841	65	36	23.767	36	36	100	W.	18	1.62	...	Nimbus ...	4-4	Hidden...	...	....	....	....	....	Light rain.
2...		24.475	57	40.5	24.441	40	39	91.0	W.	12	.72	....	Nimbus ...	4-4	Hidden...	...	....	....	....	....	Light rain.
3...		25.985	57	44	25.930	44	43	91.8	W.	4	.08	...	Nimbus ...	4-4	Hidden...	...	....	....	....	....	Light rain.
4...		27.212	54	46	27.139	47	45	84.7	S.	3	.04	....	Nimbus ...	4-4	Hidden ...	...	....	....	....	....	Light rain.

Station 1	7 0	23.806	60	36	23.744	36	33	70	S. W.	18	1.62		Stratus	4-4	Hidden				6.30 a. m.		Clearing.
2		24.470	66	40.5	24.416	40	38	82	W.	25	3.12		Nimbus	4-4	Hidden						Light rain.
3		25.980	60	43.5	25.918	44	42	83.6	S.	6	.18		Nimbus	4-4	Hidden						Light rain.
4		27.1[illegible]	55.5	46	27.100	46.5	45	88.3	S. E.	2	.02		Nimbus	4-4	Hidden						Light rain.
Station 1	7 57	23.765	62	38	23.69[illegible]	38	37	90	N.W.	24	2.88		Stratus	4-4	Hidden					.30	Cloudy.
2		24.419	50	40	24.400	40	39	91	W.	19	1.80		Nimbus	4-4	Hidden						Light rain.
3		25.950	59	45.5	25.890	45.5	43.5	83.8	0	0	0		Nimbus	4-4	Hidden					.15	Light rain.
4		27.171	58	47.5	27.091	48	45	77.7	N.	2	.02		Nimbus	4-4	Hidden					.17	Light rain.
Station 1	9 0	23.740	64	36	23.670	36	35	90	S.W.	30	4.50		Nimbus	4-4	Hidden			8.25 a. m.			Heavy rain.
2		24.339	55	38	24.302	38	38	100	W.	22	2.42		Nimbus	4-4	Hidden						Light rain.
3		25.930	60.5	44	25.867	44	42.5	87.6	S. E.	4	.08		Nimbus	4-4	Hidden						Light rain.
4		27.141	58	47	27.058	48	46.5	88.7	N. E.	2	.02		Nimbus	4-4	Hidden						Light rain.
Station 1	10 0	23.726	65	39	23.648	39	38	91	W.	36	6.48		Nimbus	4-4	Hidden						Heavy rain.
2		24.385	51	42	24.368	42	42	100	W.	20	2.00		Nimbus	4-4	Hidden						Light rain.
3		25.910	63	46	25.841	46	45	92.1	S. E.	6	.18		Nimbus	4-4	Hidden						Light rain.
4		27.100	56	48	27.022	49	47	95.3	N.E.	4	.08		Nimbus	4-4	Hidden						Light rain.
Station 1	11 0	23.700	66	41	23.626	41	41	100	W.	40	8.00		Nimbus	4-4	Hidden						Heavy rain.
2		24.339	55	44.5	24.309	44	44	100	W.	18	1.62		Nimbus	4-4	Hidden						Light rain.
3		25.885	63.5	48	25.815	48	47	92.5	S. E.	4	.08		Stratus	4-4	Hidden				10.30 a.m.	.24	Cloudy.
4		27.070	57.5	51.5	26.980	52	50	86.1	E.	4	.08		Stratus	4-4	Hidden				10.20 a.m.		Cloudy.
Station 1	12 m.	23.695	64	43	23.625	43	42	91	W.	24	2.88		Stratus	4-4	Hidden				11.36 a.m.	.20	Cloudy.
2		24.366	62	46	24.315	46	46	100	W.	22	2.42		Stratus	4-4	Hidden				11.55 a.m.	.36	Threatening.
3		25.865	64	50	25.794	50	49	92.7	W.	5	.12		Stratus	4-4	Hidden						Cloudy.
4		27.054	59.5	52	26.968	52	50	86.1	N.W.	4	.08	77	Stratus	4-4	Hidden						Cloudy.
	p. m.																				
Station 1	1 0	23.685	70	43	23.603	43	42	91	W.	36	6.48		Stratus	4-4	Hidden						Cloudy.
2		24.337	62	46	24.280	45.5	45.5	100	W.	20	2.00		Stratus	4-4	Hidden						Threatening.
3		25.835	63	52	25.766	52	50.5	89.6	0	0	0		Stratus	4-4	Hidden						Cloudy.
4		27.017	60	58	26.930	58	55	81.6	N. E.	4	.08		Stratus	3-4	Hidden						Clearing up.
Station 1	2 0	23.662	69	45	23.582	45	41	92	W.	36	6.48		Stratus	4-4	Hidden						Cloudy.
2		24.293	56	47.5	24.267	47.5	47.5	100	W.	35	6.12		Stratus	4-4	Hidden						Threatening.
3		25.815	65	55	25.741	55	53	86.9	N.	4	.08		Stratus	4-4	Hidden						Cloudy.
4		26.999	62	60	26.907	60	58	88.0	N. W.	2	.02		Stratus	4-4	Hidden						Cloudy.
Station 1	3 0	23.641	71	45	23.561	45	45	100	W.	38	7.22		Stratus	4-4	Hidden						Cloudy.
2		24.288	55	50	24.258	49.5	49.5	100	W.	42	8.82		Stratus	4-4	Hidden						Foggy.
3		25.788	66	59	25.713	59	57	87.8	W.	4	.08		Stratus	1-4	Cirrus	1-4					Fair.
4		26.970	65.5	66	26.869	66	61	73.5	N. E.	2	.02		Stratus	2-4	Cirrus	1-4	N. W.				Fair.
Station 1	4 0	23.616	67	47	23.521	47	46	92	W.	48	4.52		Stratus	4-4	Hidden						Cloudy.
2		24.247	56	51	24.216	51	50	92.9	W.	37	6.84		Stratus	2-4	Cirrus	1-4					Clearing up.
3		25.765	66.5	58	25.689	58	55	81.6	S. E.	4	.08		Stratus	3-4	Cumulus	1-4	N. W.				Cloudy.
4		26.946	67	65	26.841	65	61	78.3	N. W.	2	.02		Stratus	3-4	Cirrus	1-4	N. W.				Cloudy.
Station 1	4 57	23.5[illegible]	70	47	23.5[illegible]6	47	46	92	W.	36	6.48		Stratus	4-4	Hidden						Cloudy.
2		24.240	57	50	24.216	50	49	92.7	W.	42	8.82		Stratus	4-4	Hidden						Cloudy.
3		25.747	67.5	57	25.667	57	54	81.2	W.	7	.24		Stratus	4-4	Hidden						Cloudy.
3		26.920	66	61	26.818	61	58	82.5	S.	4	.08		Stratus	3-4	Cirrus	1-4					Cloudy.
Station 1	6 0	23.595	73	46	23.507	46	46	100	W.	20	2.00		Nimbus	4-4	Hidden			6.00 p. m.			Light rain.
2		24.229	61	49.5	24.187	49	49	100	W.	44	9.68		Nimbus	4-4	Hidden			5.45 p. m.			Light rain.
3		25.742	67	56	25.665	56	56	100	S. W.	6	.18		Nimbus	4-4	Hidden			5.55 p. m.			Light rain.
4		26.915	67	58	26.810	58	55	81.6	S. E.	4	.08		Nimbus	4-4	Hidden			6.00 p. m.			Light rain.

Meteorological record for June 4, 1873—Continued

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.		
	p. m.																				
Station 1...	7 0	23.565	74	48	23.475	48	46	85	N. W.	38	7.22	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light rain.
2...		24.218	59	49.5	24.181	49	49	100	W.	42	8.82	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light rain.
3...		25.730	67	55	25.653	55	55	100	S. W.	4	.08	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light rain.
4...		26.892	65	55	26.792	55	54	93.4	E.	4	.08	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Station 1...	8 0	23.588	73	48	23.500	48	48	100	N. W.	19	1.80	....	Nimbus ...	4-4	Hidden ...	....	....	....	....	....	Light rain.
2...		24.169	60	50	24.159	50	50	100	W.	54	14.58	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light rain.
3...		25.715	69	55	25.634	55	55	100	W.	5	.12	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light rain.
4...		26.895	68	55	26.788	55.5	54	90.2	E.	4	.08	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light rain.
Station 1...	9 0	23.568	69	47	23.488	47	47	100	N. W.	24	2.88	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light rain.
2...		24.190	58	49.5	24.155	49.5	49.5	100	W.	42	8.82	...	Nimbus ...	4-4	Hidden ...	....	....	....	....	....	Light rain.
3...		25.710	69	54.5	25.629	54.5	54.5	100	N. W.	6	.18	....	Stratus ...	4-4	Hidden ...	....	....	....	8.45 p. m.	....	Threatening.
4...		26.898	70	58.5	26.788	59	57	87.8	0	0	0	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Station 1...	10 0	23.550	69	48	23.470	48	48	100	N. W.	40	8.00	....	Nimbus ...	4-4	Hidden ...	....	....	....	....	....	Light rain.
2...		24.188	59	49.5	24.151	50	50	100	W.	38	7.22	....	Nimbus ...	4-4	Hidden ...	....	....	....	....	....	Light rain.
3...		25.698	69	54.5	25.617	54.5	54.5	100	N.	12	.72	...	Nimbus...	4-4	Hidden ...	....	....	9.20 p. m.	....	....	Light rain.
4...		26.880	70	59	26.770	59	58	93.9	S.	4	.08	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light rain.
Station 1...	11 22	23.555	72	47	23.469	47	47	100	N. W.	30	4.50	....	Nimbus ...	4-4	Hidden ...	....	....	....	....	.56	Light rain.
2...		24.218	67	49	24.163	49.5	49.5	100	W.	25	3.12	....	Nimbus ...	4-4	Hidden ...	....	....	....	....	.55	Light rain.
3...		25.688	67	53	25.611	53	53	100	W.	6	.18	....	Nimbus...	4-4	Hidden ...	....	....	....	....	.40	Light rain.
4...		26.868	69	57	26.760	57	57	100	W.	4	.08	....	Nimbus...	4-4	Hidden ...	....	....	....	....	.35	Light rain.
Station 1...	12 0 mid-night.	23.550	73	46	23.462	46	46	100	N. W.	22	2.42	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light rain.
2...		24.229	68	48.5	24.172	48	48	100	N. W.	32	5.12	790	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light rain.
3...		25.678	62	52	25.613	52	52	100	N.	8	.32	103	Nimbus ...	4-4	Hidden ...	....	....	....	....	....	Light rain.
4...		26.845	69	58	26.737	58	57	93.7	W.	4	.08	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light rain.

Meteorological record for June 5, 1873.

Place of observation.	Time of observation.	Barometer.	Attached.	Exposed.	Corrected barometer.	Dry bulb.	Wet bulb.	Relative humidity.	Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.	Amount of rain or melted snow.	Remarks.
	a. m.																				
Station 1 ...	1 0	23.530	73	44	23.442	44	44	100	N. W.	24	2.88	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light rain.
2...		24.210	66	47	24.158	47	47	100	N. W.	14	.98	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light rain.
3...		25.678	65	50	25.606	50	50	100	N.	6	.18	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light rain.
4...		26.872	62	55	26 781	56	54	87.2	W.	4	.08	....	Nimbus ...	4-4	Hidden ...	....	....	....	....	....	Light rain.

Station 1	2	0	23.520	71	42	23.436	42	42	100	N. W.	30	4.50		Nimbus	4-4	Hidden						Light rain.
2			24.205	70	45	24.144	45	45	100	N. W.	13	.84		Nimbus	4-4	Hidden						Light rain.
3			25.668	66	48	25.583	48	48	100	N.	6	.18		Nimbus	4-3	Hidden						Light rain.
4			26.854	65	53	26.756	54	52.5	90.0	S.W.	4	.08		Nimbus	4-4	Hidden						Light rain.
Station 1	3	0	23.488	69	40	23.408	40	40	100	N. W.	36	6.48		Stratus	4-4	Hidden				2.35 a. m.		Cloudy.
2			24.200	66	43	24.143	43	43	100	N. W.	16	1.28		Nimbus	4-4	Hidden						Light rain.
3			25.670	67	46	25.593	46	46	100	N.	6	.18		Nimbus	4-4	Hidden						Light rain.
4			26.870	63	51	26.777	52	51	93.2	W.	3	.04		Heavy fog	4-4	Hidden						Light rain.
Station 1	4	0	23.492	68	40	23.414	40	40	100	N. W.	30	4.50		Stratus	4-4	Hidden						Cloudy.
2			24.20[illegible]	71	42	24.137	42	42	100	W.	16	1.28		Nimbus	4-4	Hidden						Light rain.
3			25.670	64	46	25.600	46	46	100	N.	5	.12		Nimbus	4-4	Hidden						Light rain.
4			26.882	62	51	26.791	52	50	86.1	N. W.	3	.04		Nimbus	4-4	Hidden						Light rain.
Station 1	5	0	23.480	66	39	23.406	39	38	91	N. W.	24	2.28		Stratus	4-4	Hidden						Cloudy.
2			24.205	66	41	24.153	41	41	100	N. W.	14	.98		Stratus	4-4	Hidden				5.00 a. m.	.11	Threatening.
3			25.690	64	44.5	25.620	44.5	44.5	100	N.	4	.08		Nimbus	4-4	Hidden						Light rain.
4			26.884	63	51	26.791	52	50	86.1	N.	3	.04		Nimbus	4-4	Hidden						Light rain.
Station 1	6	0	23.495	63	39	23.428	39	38	91	N. W.	30	4.50		Stratus	4-4	Hidden						Cloudy.
2			24.205	60	39.5	24.165	39	39	100	N. W.	13	.84		Stratus	4-4	Hidden						Threatening.
3			25.700	63	43	25.632	43	43	100	N. E.	7	.24		Stratus	4-4	Hidden				5.30 a. m.		Threatening.
4			26.892	59	49.5	26.808	50.5	48	82.2	E.	2	.02		Stratus	4-4	Hidden				5.20 a. m.		Cloudy.
Station 1	7	0	23.510	60	39	23.449	39	39	100	N. W.	48	11.22		Stratus	4-4	Hidden						Cloudy.
2			24.210	62	40	24.166	40	40	100	N.	14	.98		Stratus	4-4	Hidden						Clearing up.
3			25.720	62	44	25.655	44	44	100	N. W.	6	.18		Stratus	4-4	Hidden						Threatening.
4			26.912	56.5	50.5	26.835	51.5	48.5	79.0	E.	3	.04		Stratus	4-4	Hidden						Cloudy.
Station 1	7	57	23.525	60	40	23.464	40	40	100	N. W.	36	6.48		Cumulus	3-4	0	0				.30	Fair.
2			24.230	62.5	42	24.185	42	41.5	95.6	N. E.	20	2.00		Stratus	2-4	0	0	0				Clearing up.
3			25.710	60	46	25.649	46	45	92.1	N. W.	5	.12		0	0	Cumulus	3-4	N.			.07	Fair.
4			26.901	57.5	53	26.821	53.5	50	76.7	E.	2	.02		Stratus	3-4	0	0				.08	Cloudy.
Station 1	9	0	23.555	61	42	23.492	42	41	91	N. W.	34	5.78		Stratus	4-4	Hidden						Cloudy.
2			24.238	54	43	24.211	43	42.5	95.7	N. E.	12	.72		Stratus	4-4	Hidden						Cloudy.
3			25.725	59	48	25.669	48	47	92.5	N. W.	3	.04		Stratus	4-4	Hidden						Cloudy.
4			26.927	60	54	26.841	54	50	73.8	N.	4	.08		Stratus	4-4	Hidden						Cloudy.
Station 1	10	0	23.590	59	42	23.531	42	41	91	N. W.	19	1.80		Stratus	4-4	Hidden						Cloudy.
2			24.260	57	43	24.226	43	42.5	95.7	N. W.	13	.84		Stratus	4-4	Hidden						Cloudy.
3			25.740	60	48	25.679	48	47.5	96.2	N.	1	.01		Stratus	4-4	Hidden						Cloudy.
4			26.948	60	57	26.862	57	53	75.2	N. W.	2	.02		Stratus	4-4	Hidden						Cloudy.
Station 1	11	0	23.595	58	43	23.538	43	42	91	N. W.	24	2.88		Stratus	4-4	Hidden						Cloudy.
2			24.262	59	45	24.223	45	44.5	95.9	N. W.	7	.24		Stratus	4-4	Hidden						Cloudy.
3			25.745	61	50	25.682	50	49.5	96.3	N.	5	.12		Stratus	2-4	Cumulus	1-4	N. W.				Cloudy.
4			26.957	65	60	26.859	60	55.5	73.7	N.	2	.02		Stratus	4-4	Hidden						Cloudy.
Station 1	12 m.		23.627	62	44	23.560	44	43	92	W.	12	.72		Stratus	4-4	Hidden						Cloudy.
2			24.275	65	46.5	24.223	46.5	46	96.1	N. W.	10	.50		Stratus	4-4	Hidden						Cloudy.
3			25.748	62	52	25.683	52	50.5	89.6	N. W.	1	.01		Stratus	4-4	Hidden						Cloudy.
4			26.958	67	60.5	26.855	61	56	71.3	N. W.	2	.02	67	Stratus	4-4	Hidden						Cloudy.
	p. m.																					
Station 1	1	0	23.635	68	44	23.557	44	43	92	W.	14	.98		Haze		Cumulus	2-4	W.				Fair.
2			24.309	76	49	24.233	49	47	85.3	N. W.	12	.72		Stratus	4-4	Hidden						Cloudy.
3			25.748	64	56	25.678	56	54	87.2	W.	1	.01		Stratus	2-4	Cumulus	2-4	W.				Cloudy.
4			26.942	66.5	64	26.841	64	57	62.5	S. W.	2	.02		Stratus	2-4	Cumulus	1-4	N. W.				Clearing up.

Meteorological record for June 5, 1873—Continued.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from)—	Commen'd.	Ended.		
	p. m.																				
Station 1	2 0	23.635	68	44	23.557	44	42	84	N. W.	16	1.28	...	Stratus	4-4	Hidden	...	....	....	....	....	Cloudy.
2		24.278	64	50	24.228	49	48	92.6	W.	17	1.44	...	Stratus	4-4	Hidden	...	....	....	....	....	Cloudy.
3		25.750	67	56	25.673	56	53	80.9	W.	5	.12	...	Stratus	2-4	Cumulus	2-4	N.	....	....	....	Cloudy.
4		26.940	67	65	26.837	65	57	58.2	W.	4	.08	...	Stratus	3-4	Cumulus	1-4	N. W.	....	....	....	Cloudy.
Station 1	3 0	23.615	66	45	23.571	45	44	92	N. W.	8	.32	...	Nimbus	4-4	Hidden	...	....	3.00 p. m.	....	....	Light rain.
2		24.267	57	48	24.243	48	46	65.0	W.	19	1.88	...	Stratus	4-4	Hidden	...	....	....	....	....	Cloudy.
3		25.750	67	56	25.673	56	53	80.9	S. E.	6	.18	...	Stratus	4-4	Hidden	...	....	....	....	....	Threatening.
4		26.938	67	64	26.835	64	57	62.7	W.	4	.08	...	Stratus	4-4	Hidden	...	....	....	....	....	Cloudy.
Station 1	4 0	23.578	67	42	23.502	42	42	100	N. W.	18	1.62	...	Stratus	4-4	Hidden	...	....	....	3.55 p. m.	....	Cloudy.
2		24.247	61	45.5	24.204	45	45	100	W.	27	3.64	...	Stratus	4-4	Hidden	...	....	....	....	....	Cloudy.
3		25.750	67	51	25.673	51	51	100	W.	4	.08	...	Stratus	1-4	Cirrus	1-4	N.	3.10 p. m.	3.50 p. m.	....	Fair.
4		26.940	63	57	26.847	58	55.5	84.5	S. E.	4	.08	...	Stratus	2-4	Cirrus	1-4	N. W.	3.10 p. m.	3.45 p. m.	....	Clear'g, thunder-storm.
Station 1	4 57	23.610	69	42	23.530	42	41	91	N. W.	20	2.00	...	Haze	....	Cumulus	2-4	N. W.	....	....	.06	Cloudy.
2		24.2[illegible]0	60	44.5	24.228	44	43.5	95.8	N. W.	23	2.64	...	Stratus	2-4	Cumulus	1-4	N. W. s.	3.05 p. m.	3.50 p. m.	.20	Clearing up.
3		25.752	66	49	25.678	49	48	92.6	N. W.	6	.18	...	Stratus	3-4	Hidden	...	....	....	....	.17	Fair.
4		26.955	66	58	26.851	57.5	55	81.4	0	0	0	...	Stratus	2-4	Cirrus	1-4	N. W.	....	....	.15	Clearing up.
Station 1	6 0	23.655	75	41	23.561	41	40	91	N. W.	22	2.42	...	Stratus	4-4	Hidden	...	....	....	....	....	Cloudy.
2		24.281	61	44	24.238	44	43.5	95.8	W.	22	2.42	...	Stratus	4-4	Hidden	...	....	....	....	....	Threatening.
3		25.778	66	49	25.701	49	49	100	N. W.	5	.12	...	Nimbus	3-4	Cirrus	1-4	N.	6.00 p. m.	....	....	Light rain.
4		26.963	68	56.5	26.858	57	54.5	84.3	N.	2	.02	...	Stratus	2-4	Cirrus	1-4	N. W.	....	....	....	Clearing up.
Station 1	7 0	23.594	76	40	23.498	40	39	91	N. W.	25	3.12	...	Stratus	4-4	Hidden	...	....	....	....	....	Fair.
2		24.318	69	43	24.257	43	43	100	N. W.	25	3.12	...	Stratus	4-4	Hidden	...	....	....	....	....	Threatening.
3		25.780	65	49	25.700	49	48	92.6	N.	6	.18	...	Stratus	2-4	Cirrus	1-4	N. W.	....	6.10 p. m.	....	Fair.
4		26.98[illegible]	65	51.5	26.882	55	53.5	90.1	E.	2	.02	...	Stratus	1-4	Cumulus	2-4	....	....	....	....	Fair.
Station 1	8 0	23.61[illegible]	74	39	23.511	39	38	91	N. W.	25	3.12	...	Cumulus	1-4	Cumulus	2-4	N. W.	....	....	....	Fair.
2		24.31[illegible]	62	41.5	24.271	41.5	40	86.9	N. W.	30	4.50	...	Stratus	3-4	Cumulus	1-4	....	....	....	....	Threatening.
3		25.7[illegible]	61	46	25.711	46	45	92.1	0	0	0	...	Stratus	2-4	0	0	0	....	....	....	Fair.
4		[illegible]	[illegible]	50	26.886	51	49	85.9	E.	2	.02	...	Stratus	1-4	Cirrus	2-4	N. W.	....	....	....	Fair.
Station 1	9 0	[illegible]	66	39	23.516	39	37	81	N. W.	30	4.50	...	Haze	....	Cumulus	2-4	N. W.	....	....	....	Fair.
2		[illegible]	[illegible]	41	24.361	41	40.5	95.5	N. W.	36	6.48	...	Stratus	2-4	0	0	0	8.16 p. m.	8.20 p. m.	....	Fair.
3		[illegible]	64	47	25.720	47	46	92.3	N. W.	5	.12	...	Stratus	2-4	0	0	0	....	....	....	Fair.
4		27.0[illegible]	[illegible]	50	26.902	50.5	48.5	85.7	S. E.	4	.08	...	Stratus	1-4	Cirrus	1-4	N. W.	....	....	....	Fair.
Station 1	10 0	23.640	64	39	23.550	39	37	81	N. W.	37	6.84	...	Stratus	4-4	Hidden	...	....	....	....	....	Cloudy.
2		24.338	60	41	24.297	41	41	100	S. W.	12	.72	...	Nimbus	4-4	Hidden	...	....	....	....	....	Light rain.
3		25.810	66	46	25.734	46	46	100	E.	1	.01	...	Nimbus	4-4	Hidden	...	....	9.40 p. m.	....	....	Light rain.
4		27.008	63	49.5	26.915	49.5	50	82.9	0	0	0	....	Stratus	4-4	Hidden	...	....	....	....	....	Misting.

2	11 22	24.329	63	40.5	24.281	40.5	40	95.5	S. W.	23	2.64		Stratus	4-4	Hidden			9.45 p. m.	10.20 p. m	.08	Cloudy.
3		25.815	63.5	45	25.745	45	44	92.0	0	0	0		Stratus	2-4	0	0	0		10.30 p. m	.01	Fair.
4		27.000	61	47	26.912	47	45	84.7	S. E.	4	.08		Stratus	1-4	0	0	0				Fair.
Station 1	12 0 mid-night.	23.650	70	37	23.567	37	36	90	N. W.	12	.72		Stratus	4-4	Hidden						Cloudy.
2		24.317	63	40.5	24.269	40.5	40.5	100	W.	13	.84	360	Stratus	4-4	Hidden						Cloudy.
3		25.800	61	45	25.736	45	44	92.0	0	0	0	103	Stratus	1-4	Cirro-cum.	2-4	W.				Fair.
4		27.000	60	46.5	26.914	47	44.5	80.9	S. E.	4	.08		0	0	Cirrus	2-4	N. W.				Fair.

Meteorological record for June 6, 1873.

Station 1	*a. m.* 1 0	23.650	70	38	23.567	38	37	90	N. W.	26	3.38		Stratus	4-4	Hidden						Cloudy.
2		24.230	66	41	24.266	41	41	100	W.	11	.60		Stratus	4-4	Hidden						Cloudy.
3		25.794	60	45	25.732	44.5	44	95.9	0	0	0		Stratus	3-4	Hidden						Cloudy.
4		27.005	59	45	26.921	46	43	76.7	S. E.	4	.08		Stratus	3-4	Cirrus	1-4					Cloudy.
Station 1	2 0	23.650	65	38	23.578	38	37	90	N. W.	22	2.42		Stratus	4-4	Hidden						Cloudy.
2		24.315	65	41	24.263	41	40.5	95.5	W.	22	2.42		Stratus	4-4	Hidden						Cloudy.
3		25.809	63	45.5	25.740	45	44.5	95.9	N. E.	1	.01		Stratus	2-4	0	0					Fair.
4		27.012	58	46	26.931	47	45	84.7	E.	4	.08		Stratus	3-4	Cirrus	1-4					Cloudy.
Station 1	3 0	23.650	64	39	23.580	39	38	91	N. W.	20	2.00		Stratus	4-4	Hidden						Cloudy.
2		24.323	63	41.5	24.275	41.5	41	95.6	N. W.	19	1.80		Stratus	4-4	Hidden						Cloudy.
3		25.800	61	45	25.736	45	44.5	95.9	N. E.	4	.08		Stratus	2-4	0	0					Fair.
4		27.022	55	44	26.948	45	43	84.0	N. E.	4	.08		Stratus	4 4	Hidden						Cloudy.
Station 1	4 0	23.660	62	39	23.595	39	37	81	N. W.	18	1.62		Nimbus	4-4	Hidden			3.40 a. m.			Light rain.
2		24.335	65	41.5	24.283	41.5	41	95.6	N. W.	14	.98		Stratus	4-4	Hidden						Cloudy.
3		25.799	61	45.5	25.735	45	45	100	N.	1	.01		Stratus	3-4	Cumulus	1-4	N. W.				Cloudy.
4		27.023	56	45	26.947	46	44	84.3	N. E.	4	.08		Stratus	4-4	Hidden						Cloudy.
Station 1	5 0	23.675	63	39	23.608	39	38	91	N. W.	18	1.62		Stratus	4-4	Hidden				5.00 a. m.	.03	Cloudy.
2		24.355	72	42	24.288	41.5	41	95.6	W.	11	.60		Stratus	4-4	Hidden						Cloudy.
3		25.820	61	44.5	25.756	45	44	92.0	0	0	0		Stratus	1-4	Cumulus	2-4	N. W.				Fair.
4		27.048	55	46	26.974	47	45	84.7	N. E.	4	.08		Stratus	2-4	Cirrus	1-4					Cloudy.
Station 1	6 0	23.690	65	39	23.618	39	38	91	W.	17	1.44		Stratus	4-4	Hidden						Cloudy.
2		24.335	68	42.5	24.297	42	42	100	W.	14	.98		Stratus	4-4	Hidden						Cloudy.
3		25.826	59	46	25.766	46.5	46	96.1	N.	1	.01		0	0	Cumulus	3-4	N. W.				Fair.
4		27.048	55.5	48	26.973	49	47	85.3	N. E.	3	.04		Stratus	3-4	0	0					Cloudy.
Station 1	7 0	23.700	70	40	23.628	40	39	91	N. W.	24	2.88		Stratus	4-4	Hidden						Cloudy.
2		24.360	63	43.5	24.312	43	42.5	95.7	W.	10	.50		Stratus	4-4	Hidden						Cloudy.
3		25.842	61	47.5	25.778	48	47	92.5	0	0	0		Stratus	1-4	Cumulus	2-4	N. W.				Fair.
4		27.052	57	51.5	26.973	52.5	50.5	86.1	N. E.	1	.01		Stratus	2-4	Cirrus	1-4	N.				Cloudy.
Station 1	7 57	23.725	70	41	23.642	41	40	91	N. W.	16	1.28		Stratus	4-4	Hidden						Cloudy.
2		24.37[illegible]	63	45	24.322	44.5	44	95.9	W.	13	.84		Stratus	4 4	Hidden						Cloudy.
3		25.854	61	49.5	25.780	50	48.5	89.1	N.	2	.02		0	0	Cumulus	2-4	N.				Fair.
4		27.052	57	54.5	26.973	55	50.5	71.1	0	0	0		Stratus	2-4	Cirrus	1-4					Cloudy.
Station 1	9 0	23.735	74	42	23.644	42	41	91	N. W.	12	.72		Stratus	4-4	Hidden						Cloudy.
2		24.369	59	45	24.330	45	44	92	W.	17	1.44		Stratus	4-4	Hidden						Cloudy.
3		25.852	59.5	52	25.791	52	49	79.4	0	0	0		Stratus	2-4	Cumulus	2-4	W.				Cloudy.
4		27.064	60	58.5	26.978	59	53	64.7	W.	4	.08		Stratus	4-4	Hidden						Cloudy.

Meteorological record for June 6, 1873—Continued.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commenc'd.	Ended.		
Station 1	a. m. 10 0	23.735	68	42	23.656	42	41	91	N. W.	14	.98	....	Stratus	4-4	Hidden						Cloudy.
2		24.390	66	46	24.336	45	44	92	W.	22	2.42	....	Stratus	4-4	Hidden						Cloudy.
3		25.865	61	53	25.801	53	50	79.8	W.	6	.18	....	Stratus	2-4	Cumulus	2-4	W.				Cloudy.
4		27.068	60	59	26.982	59	53	64.7	S. W.	4	.08	....	Stratus	2-4	Cumulus	1-4	N. W.				Cloudy.
Station 1	11 0	23.740	65	42	23.658	42	41	91	N. W.	15	1.12	...	Hazy	....	Cumulus	3-4	N. W.				Cloudy.
2		24.388	63	47	24.34[illegible]	46	44	84	W.	25	3.12	....	Stratus	2-4	Cumulus	2-4	W. s.				Cloudy.
3		25.870	65	54	25.796	54	51	80.2	W.	6	.18	....	Stratus	2-4	Cumulus	2-4	W.				Cloudy.
4		27.062	63	62	26.969	62	55	61.2	W.	6	.18	....	Stratus	2-4	Cumulus	2-4	N. W.				Cloudy.
Station 1	12 m.	23.735	69	42	23.654	42	41	91	N. W.	12	.72	....	Hazy	....	Cumulus	4-4					Cloudy.
2		24.392	64	39	24.312	39	36	72.6	W.	24	2.88	....	Stratus	1-4	Cumulus	2-4	W.				Fair.
3		25.880	67	54	25.80[illegible]	54	50	73.8	W.	6	.18	....	0	0	Cumulus	3-4	W.				Fair.
4		27.068	63	63	26.977	63.5	54	49.8	N. W.	8	.32	72	Stratus	2-4	Cumulus	1-4	N. W.				Cloudy.
Station 1	p. m. 1 0	23.735	69	43	23.651	43	42	91	W.	16	1.28	....	Hazy	....	Cumulus	3-4	W.	12.22 p. m	12.27 p. m	(*)	Fair.
2		24.378	57.5	47	24.313	46.5	44	80.7	W.	28	3.92	....	Stratus	2-4	Cumulus	1-4	W. s.	12.20 p. m	12.30 p. m	.02	Fair.
3		25.880	67	54	25.802	54	51	80.2	W.	4	.08	....	Stratus	1-4	Cumulus	3-4	W.	12.20 p. m	12.30 p. m	.03	Cloudy.
4		27.070	64	63	26.974	63	55	56.8	N. W.	8	.32	....	Stratus	4-4	Hidden						Cloudy.
Station 1	2 0	23.752	74	43	23.661	43	42	91	W.	14	.98	....	Hazy	....	Cumulus	4-4	W.				Fair.
2		24.380	55	50	24.350	50	46	71.6	W.	22	2.42	....	Stratus	1-4	Cumulus	2-4		1.05 p. m	1.20 p. m		Fair.
3		25.880	65	58.5	25.806	58.5	52.5	64.4	W.	10	.50	....	0	0	Cumulus	3-4	W.				Fair.
4		27.080	67	65	26.977	65	56	53.5	N. W.	8	.32	....	Cumulus	2-4	Cirrus	1-4	N. W.	1.15 p. m	1.30 p. m		Cloudy.
Station 1	3 0	23.765	70	43	23.682	43	42	91	W.	10	.50	....	Cumulus	1-4	Cumulus	3-4	W.				Cloudy.
2		24.410	66	48.5	24.356	48	44	70.4	N. W.	24	2.88	....	Stratus	3-4	Cumulus	1-4	N. W. s.				Light rain.
3		25.882	67	55	25.8[illegible]4	55	50	68.1	W.	5	.12	....	Nimbus	1-4	Cumulus	2-4	W.	3.00 p. m			Light rain.
4		27.079	68	64	26.964	64	55	52.7	N. W.	6	.18	..	Stratus	3-4	Cumulus	1-4	N. W.				Cloudy.
Station 1	4 0	23.750	65	42	23.677	43	41	83	W.	10	.50	....	Hazy	....	Cumulus	2-4	W.				Fair.
2		24.410	60	49	24.369	49	46	78.1	N. W.	22	2.42	....	Stratus	1-4	Cumulus	2-4	N. W. s.				Fair.
3		25.880	69	54	25.807	54	50	73.8	N. W.	4	.08	....	0	0	Cumulus	2-4	W.		3.30 p. m	.01	Fair.
4		27.085	65	61.5	26.987	62	55	61.2	0	0	0	...	0	0	Cumulus	3-4	N. W.	3.15 p. m	3.25 p. m	(†)	Cloudy.
Station 1	4 57	23.757	68	43	23.676	43	42	91	W.	8	.32	....	Cumulus.	1-4	Cumulus	3-4	W.				Fair.
2		24.497	62	50	24.452	49.5	47	81.9	N. W.	16	1.28	...	Stratus	1-4	Cumulus	2-4	N. W. s.	2.55 p. m	3.15 p. m	.03	Fair.
3		25.900	72	55	25.810	55	50	68.1	N.	1	.01	....	0	0	Cumulus	1-4	N. W.				Fair.
4		27.885	67	61	26.982	60.5	54	62.9	N. W.	4	.08	....	0	0	Cumulus	2-4	N. W.				Fair.
Station 1	6 0	23.770	72	43	23.683	43	42	91	W.	4	.08	....	Haze	....	Cumulus	3-4	W.				Fair.
2		24.428	68	48	24.370	47.5	43.5	84.8	N. W.	7	.24	....	Stratus	1-4	Cumulus	2-4	N. W. s.				Fair.

2...	7 0	24.429	64	44	24 379	44.5	43.5	91.9	W.	16	1.28	....	Stratus	2-4	Cumulus	1-4	N.W. a.				Threatening.
3...		25.900	69	51	25.817	51	50	92.9	N. W.	5	.12	....	Stratus	3-4	Cumulus	1-4	N. W.				Cloudy.
4...		27.085	63	57	26.992	57.5	53	72.5	0	0	0	....	Stratus	4-4	0	0					Cloudy.
Station 1...	8 0	23.780	67	41	23.703	41	40	91	N. W.	8	.32	....	Stratus	4-4	Hidden						Cloudy.
2...		24.430	66	44	24.389	44	43	91.8	W.	12	.72	....	Stratus	3-4	0	0					Fair.
3...		25.920	70	49	25.835	49	47	85.3	0	0	0	....	Stratus	2-4	0	0					Fair.
4...		27.100	61	53	27.012	53.5	50	76.7	N.	2	.02	....	Stratus	2-4	Cumulus	1-4					Cloudy.
Station 1...	9 0	23.760	65	40	23.687	40	39	91	W.	22	2.42	....	Cumulus	1-4	Cumulus	3-4	W.				Cloudy.
2...		24.457	69	43.5	24.396	42	42	100	N. W.	22	2.42	....	Stratus	3-4	0	0					Fair.
3...		25.920	68	48	25.839	48	47	92.5	0	0	0	....	Stratus	4-4	Hidden						Cloudy.
4...		27.105	61	50	27.017	50.5	48	82.2	N.	4	.08	....	Stratus	2-4	Cumulus	2-4					Cloudy.
Station 1...	10 0	23.780	66	40	23.705	40	39	91	W.	16	1.28	....	Stratus	4-4	Hidden						Cloudy.
2...		24.447	66	42.5	24.393	42.5	42	95.7	N. W.	8	.32	....	Stratus	4-4	Hidden						Threatening.
3...		25.930	65	47	25.856	47	46	92.3	0	0	0	....	Nimbus	4-4	Hidden			10.00 p. m			Light rain.
4...		27.120	62	50	27.029	50	48	85.6	0	0	0	....	Stratus	4-4	Hidden						Cloudy.
Station 1...	11 22	23.780	71	38	23.695	38	37	90	N. W.	14	.98	....	Cumulus	2-4	Cumulus	1-4	N. W.				Fair.
2...		24.450	70	40.5	24.387	40.5	39	86.6	S.W.	8	.32	....	Stratus	2-4	0	0					Fair.
3...		25.910	62	45	25.843	45	43	84.0	N. E.	2	.02	....	0	0	Cumulus	1-4	W.		10.15 p. m	.02	Fair.
4...		27.105	61	47	27.017	48	46.5	88.7	0	0	0	....	0	0	Cirro-cum	1-4	N.				Clear.
Station 1...	12 0 mid-night.	23.780	71	38	23.695	38	37	90	N. W.	12	.72	....	Cumulus	1-4	Cumulus	1-4	N. W.				Fair.
2...		24.437	67	40	24.381	40	38.5	86.4	S.W.	8	.32	....	Stratus	1-4	Cirrus	1-4					Fair.
3...		25.910	60	45	25.848	45	43	84.0	N. E.	2	.02	74	0	0	Cumulus	1-4	W.				Fair.
4...		27.110	61	46.5	27.022	46	45	92.1	N.	2	.02	....	0	0	Cirro-cum	3-4	N.				Fair.

* Not enough to measure.

† No measure.

Meteorological record for June 7, 1873.

Station 1...	a. m. 1 0	23.755	71	37	23.670	37	36	90	N. W.	18	1.62	....	Stratus	1-4	Cumulus	2-4	N. W.				Fair.
2...		24.440	75	40	24.366	40	38	82.0	N.	5	.12	....	Stratus	1-4	0	0					Fair.
3...		25.890	61	44	25.826	44.5	42	79.8	N.	4	.08	....	Stratus	1-4	0	0					Fair.
4...		27.115	59	44.5	27.031	45.5	43.5	84.1	E.	4	.08	....	Stratus	2-4	0	0					Fair.
Station 1...	2 0	23.760	70	37	23.677	37	36	90	N. W.	12	.72	....	Cumulus	1-4	Cumulus	2-4	N. W.				Fair.
2...		24.440	72	40	24.373	40	36	64.5	N.	4	.08	....	Stratus	2-4	0	0					Fair.
3...		25.890	59	42.5	25.830	43	41	83.3	0	0	0	....	Stratus	1-4	0	0					Fair.
4...		27.108	58	45	27.027	46	43	76.7	N. E.	3	.04	....	Stratus	2-4	0	0					Fair.
Station 1...	3 0	23.736	66	36	23.661	36	35	90	N. W.	8	.32	....	Stratus	4-4	Hidden						Cloudy.
2...		24.440	73	39	24.371	39	38	90.7	N.	12	.72	....	Stratus	4-4	Hidden						Cloudy.
3...		25.900	62	43.5	25.833	44	42	83.6	0	0	0	....	Stratus	4-4	Hidden						Cloudy.
4...		27.109	57	44	27.030	45	42	76.2	E.	3	.04	....	Hazy		Hidden						Hazy.
Station 1...	4 0	23.728	65	35	23.655	35	34	90	N. W.	10	.50	....	Stratus	4-4	Hidden						Cloudy.
2...		24.430	70	39	24.367	38.5	38.5	100	W.	11	.60	....	Stratus	4-4	Hidden						Cloudy.
3...		25.913	63	43.5	25.844	44	43	91.8	0	0	0	....	Stratus	4-4	Hidden						Cloudy.
4...		27.108	56.5	45	27.031	46	43	76.7	N. E.	3	.04	....	Stratus	4-4	Hidden						Cloudy.
Station 1...	5 0	23.740	69	35	23.659	35	34	90	N. W.	5	.12	....	Stratus	4-4	Hidden						Cloudy.
2...		24.430	64	38.5	24.380	38	38	100	N. W.	10	.50	....	Stratus	4-4	Hidden						Cloudy.
3...		25.920	60	43	25.858	43.5	42.5	91.7	N.	2	.02	....	Stratus	4-4	Hidden						Cloudy.
4...		27.115	57	46	27.036	46.5	44.5	84.3	N. E.	2	.02	....	Stratus	4-4	Hidden						Cloudy.

Meteorological record for June 7, 1873—Continued.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from)—	Comm'd.	Ended.		
Station 1	a. m. 6 0	23.758	60	35	23.677	35	34	90	N. W.	8	.32		Stratus	4-4	Hidden						Cloudy.
2		24.435	64	38.5	24.385	38	37.5	95.2	N. W.	4	.08		Stratus	4-4	Hidden						Cloudy.
3		25.920	57.5	44	25.864	44.5	43	87.8	0	0	0		Stratus	4-4	Hidden						Cloudy.
4		27.135	57	47.5	27.056	48	46	85.0	N. E.	1	.01		Stratus	3-4	Hidden						Cloudy.
Station 1	7 0	23.780	68	35	23.701	35	34	90	N. W.	13	.84		Stratus	4-4	Hidden						Cloudy.
2		24.440	65	38	24.388	37.5	37.5	100	N.	10	.50		Stratus	4-4	Hidden						Cloudy.
3		25.928	59	44.5	25.868	44.5	43.5	91.9	N. W.	3	.04		Stratus	4-4	Hidden						Cloudy.
4		27.145	55.5	51	27.070	51	48	79.6	N. W.	1	.01		Stratus	4-4	Hidden						Cloudy.
Station 1	7 57	23.780	67	36	23.703	36	35	90	0	0	0		Stratus	4-4	Hidden						Cloudy.
2		24.453	64	37.5	24.403	37	37	100	N.	12	.72		Stratus	4-4	Hidden						Cloudy.
3		25.935	58	44.5	25.877	44.5	43.5	91.9	N. W.	5	.12		Stratus	4-4	Hidden						Cloudy.
4		27.162	60	51.5	27.076	51.5	48.5	79.2	0	0	0		Stratus	3-4	Hidden						Cloudy.
Station 1	9 0	23.770	60	36	23.708	36	35	90	N. W.	10	.50		Stratus	4-4	Hidden						Cloudy.
2		24.419	59	39	24.410	39	38	90.7	N. W.	8	.32		Stratus	4-4	Hidden						Cloudy.
3		25.932	54	44	25.881	44	43.5	95.8	N. W.	6	.18		Stratus	4-4	Hidden						Cloudy.
4		27.170	69	53	27.084	53.5	50	76.7	N. W.	4	.08		Stratus	4-4	Hidden						Cloudy.
Station 1	10 0	23.785	58	36	23.727	36	35	90	N. W.	12	.72		Nimbus	4-4	Hidden			9.26 a. m.			Light rain and hail.
2		24.441	55	39	24.411	38.5	38	95.3	N. W.	18	1.62		Nimbus	4-4	Hidden			9.45 a. m			Light rain.
3		25.940	59	44	25.880	44	44	100	N. W.	6	.18		Nimbus	4-4	Hidden			9.45 a. m.			Light rain.
4		27.171	60	54.5	27.085	55	50	68.1	N. W.	3	.01		Stratus	4-4	Hidden						Cloudy.
Station 1	11 0	23.750	58	36	23.692	36	35	90	N. W.	8	.32		Stratus	4-4	Hidden				10.45 a. m.		Cloudy.
2		24.448	53	38	24.422	37.5	37.5	100	N. E.	15	1.12		Nimbus	4-4	Hidden						Light rain.
3		25.945	60	46	25.883	46	43	76.7	N. W.	5	.12		Stratus	2-4	Cumulus	2-4	N. W.		10.20 a. m.		Cloudy.
4		27.170	61	56.5	27.082	57	50.5	63.0	N. W.	8	.32		Stratus	2-4	Cumulus	1-4	N.				Cloudy.
Station 1	12 m.	23.770	59	36	23.710	36	35	90	N. W.	12	.72		Nimbus	4-4	Hidden			11.30 a. m.			Light rain.
2		24.459	61	49	24.416	48	48	100	N. W.	17	1.41		Nimbus	4-4	Hidden						Light rain.
3		25.955	63	45	25.886	45	44	92.0	N.	7	.24		Nimbus	4-4	Hidden			11.45 a. m.			Light rain.
4		27.186	61	55.5	27.092	56	50.5	55.7	N. W.	6	.18	81	Stratus	4-4	Hidden						Cloudy.
Station 1	p. m. 1 0	23.766	60	37	23.701	37	36	90	N. W.	7	.24		Nimbus	4-4	Hidden						Light rain.
2		24.488	68	48.5	24.430	48.5	48	96.2	N. W.	17	1.41		Nimbus	4-4	Hidden						Light rain.
3		25.965	65	45	25.891	45	45	100	N.	8	.32		Nimbus	4-4	Hidden						Light rain.
4		27.184	61.5	54	27.095	54	51	80.2	N. W.	6	.18		Nimbus	4-4	Hidden			12.40 p. m.			Light rain.
Station 1	2 0	23.770	60	36	23.708	36	36	100	N. W.	10	.50		Nimbus	4-4	Hidden						Light rain.
2		24.469	57	38	24.435	38	37.5	95.2	N. E.	13	.84		Nimbus	4-4	Hidden						Light rain.
3		25.975	64	44	25.904	44	43	91.8	N. W.	4	.08		Nimbus	4-4	Hidden						Light rain.
4		27.191	61	54.5	27.103	55	52	80.5	E.	4	.08		Nimbus	4-4	Hidden						Light rain.

Station 1...	3 0	23.780	62	36	23.714	36	36	100	N. W.	14	.98	....	Nimbus ...	4-4	Hidden ...	....	....	....	....	....	Light rain.
2...		24.469	58	49	24.433	48	48	100	N.	24	2.88	....	Nimbus ..	4-4	Hidden ...	....	....	....	....	....	Drizzling.
3...		25.965	61	44	25.901	44	44	100	N. W.	6	.18	....	Nimbus ..	4-4	Hidden ...	....	....	....	....	....	Light rain.
4...		27.192	59	51.5	27.108	52	50.5	89.6	N.	6	.18	....	Nimbus ..	4-4	Hidden ...	....	....	....	....	....	Light rain.
Station 1...	4 0	23.800	67	35	23.723	35	35	100	N.	16	1.28	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
2...		24.479	64	48	24.429	48	48	100	N.	23	2.64	....	Nimbus ..	4-4	Hidden ...	....	....	....	....	....	Drizzling.
3...		25.975	65	44	25.901	44	44	100	N.	5	.12	....	Nimbus ..	4-4	Hidden ...	....	....	....	....	....	Light rain.
4...		27.192	61	53	27.104	54	52	86.7	N. W.	4	.08	....	Stratus .	4-4	Hidden ...	....	....	....	3.45 p. m.	....	Cloudy.
Station 1...	4 57	23.835	68	35	23.756	35	35	100	N.	4	.08	....	Nimbus ...	4-4	Hidden ...	....	....	....	....	.08	Light rain.
2...		24.490	61	37.5	24.447	37.5	37.5	100	N. E.	20	2.00	...	Nimbus ...	4-4	Hidden ...	....	....	....	....	.35	Drizzling.
3...		25.990	62	43	25.925	43	43	100	W.	4	.08	....	Nimbus ...	4-4	Hidden ...	....	....	4.50 p. m.	4.30 p. m.	.21	Light rain.
4...		27.198	58	49	27.117	49.5	48.5	92.6	N. W.	4	.08	....	Nimbus ...	4-4	Hidden ...	....	....	4.20 p. m.	....	.15	Cloudy.
Station 1...	6 0	23.845	67	36	23.768	36	35	90	N. W.	8	.32	....	Stratus ...	4-4	Hidden ...	....	....	....	5.42 p. m.	....	Cloudy.
2...		24.479	58	38	24.444	38	38	100	N. E.	14	.98	....	Nimbus ...	4-4	Hidden ...	....	....	....	....	....	Light rain.
3...		26.010	62	43	25.942	43	43	100	N. E.	4	.08	....	Nimbus ...	4-4	Hidden ...	....	....	....	....	....	Light rain.
4...		27.212	59	52	27.128	52	49.5	82.7	N. W.	2	.02	....	Stratus ..	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Station 1...	7 0	23.845	61	36	23.781	36	35	90	N. E.	16	1.28	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
2...		24.489	59	48	24.450	47.5	47.5	100	N. W.	14	.98	....	Nimbus ...	4-4	Hidden ...	....	....	....	....	....	Light rain.
3 ..		26.020	60	42	25.958	42	42	100	N. E.	8	.32	...	Nimbus ...	4-4	Hidden ...	....	....	....	....	....	Light rain.
4...		27.243	60	49.5	27.157	50	49	92.7	W.	2	.02	....	Nimbus ...	4-4	Hidden ...	....	....	....	....	....	Light rain.
Station 1...	8 0	23.825	58	36	23.767	36	35	90	N. E.	24	2.88	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
2...		24.519	62	37.5	24.474	37.5	37.5	100	N. W.	24	2.88	....	Nimbus ...	4-4	Hidden ...	....	....	....	....	....	Light rain.
3...		26.030	59.5	42	25.969	42	42	100	N. E.	7	.24	....	Nimbus ..	4-4	Hidden ...	....	....	....	....	....	Light rain.
4...		27.260	61	48	27.170	49	47	85.3	E.	2	.02	....	Nimbus ...	4-4	Hidden ...	....	....	....	....	....	Light rain.
Station 1...	9 0	23.863	65	36	23.790	36	35	90	N. E.	12	.72	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
2...		24.528	56	37	24.496	36.5	36.5	100	N. W.	24	2.88	....	Nimbus ...	4-4	Hidden ...	....	....	....	....	....	Light rain.
3...		26.048	63	42	25.979	42	42	100	N. E.	8	.32	....	Nimbus ...	4-4	Hidden ...	....	....	....	....	....	Light rain.
4...		27.275	63	48	27.180	48	47	92.5	E.	2	.02	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Station 1...	10 0	23.885	68	36	23.805	36	35	90	N. E.	20	2.00	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
2...		24.546	61	36.5	24.503	36	36	100	N.	17	1.44	....	Nimbus ..	4-4	Hidden ...	....	....	....	....	....	Light rain.
3...		26.050	63	41	25.981	41	41	100	N. E.	8	.32	....	Nimbus ..	4-4	Hidden ...	....	....	....	....	....	Light rain.
4...		27.288	63	48	27.193	48.5	47	88.8	E.	2	.02	....	Nimbus ...	4-4	Hidden ...	....	....	....	....	....	Light rain.
Station 1...	11 22	23.878	66	35	23.803	35	34	90	N. E.	40	8.00	....	Stratus ...	4-4	Hidden ...	....	....	....	....	.02	Cloudy.
2 ..		24.558	70	37	24.517	37	37	100	N. W.	24	2.88	....	Stratus ...	4-4	Hidden ...	....	....	....	11.11 p. m.	.40	Cloudy.
3 ..		26.060	60	41	25.998	41	41	100	N. E.	8	.32	....	Stratus ...	4-4	Hidden ...	....	....	....	11.15 p. m.	.40	Threatening.
4...		27.298	60	48	27.211	49	47	85.3	N.	2	.02	....	Stratus ...	4-4	Hidden ...	....	....	....	11.00 p. m.	.45	Cloudy.
Station 1...	12 0 mid-night.	23.870	65	35	23.797	35	34	90	N. E.	48	11.52	..	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
2 ..		24.550	73	37.5	24.502	37	37	100	N. W.	26	3.38	320	Stratus ...	4 4	Hidden ...	....	....	....	....	....	Cloudy.
3...		26.062	63	41	25.993	41	41	100	N.	10	.50	119	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
4...		27.30	60	47.5	27.213	48	46.5	88.7	N.	2	.02	..	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.

Meteorological record for June 8, 1873.

	a. m.																				
Station 1...	1 0	23.870	65	34	23.797	34	33	90	N. E.	60	18.00	....	Stratus....	4-4	Hidden...	....	....	....	....	....	Cloudy.
2 ..		24.553	67	37.5	24.497	37	37	100	N. W.	18	1.62	....	Stratus...	4-4	Hidden...	....	....	....	....	....	Cloudy.
2 ..		26.055	61	42.5	25.991	43	42	91.6	N.	12	.72	....	Stratus...	4 4	Hidden...	....	....	....	....	....	Cloudy.
4...		27.309	60	48	27.222	49	46	78.1	N. E.	2	.02	....	Stratus....	4-4	Hidden...	....	....	....	....	....	Cloudy.

Meteorological record for June 8, 1873—Continued.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Common'd.	Ended.		
	a. m.																				
Station 1...	2 0	23.875	66	34	23.800	34	33	90	N. E.	55	15.12		Stratus...	4-4	Hidden....						Cloudy.
2...		24.545	61	38	24.502	37.5	37.5	100	S. W.	24	2.88		Stratus...	4-4	Hidden....						Cloudy.
3...		26.061	61	43	25.997	43	42	91.6	N.	14	.98		Stratus....	2-4	Cumulus ..	1-4	N.				Cloudy.
4...		27.318	58	47.5	27.235	48.5	46	81.5	N. E.	3	.04		Stratus....	4-4	Hidden....						Cloudy.
Station 1...	3 0	23.880	65	34	23.807	34	34	100	N. E.	48	11.52		Stratus....	4-4	Hidden....						Cloudy.
2...		24.545	63	37	24.496	37	37	100	S. W.	24	2.88		Stratus....	4-4	Hidden....						Cloudy.
3...		26.059	59	42.5	25.999	43	42	91.6	N.	13	.84		Stratus....	3-4	Cumulus .	1-4	N. E.				Cloudy.
4.		27.330	58.5	48	27.246	48.5	46.5	85.1	N. E.	4	.08		Stratus....	4-4	Hidden....						Cloudy.
Station 1...	4 0	23.885	61	33	23.820	33	33	100	N. E.	36	6.48		Stratus....	4-4	Hidden....						Cloudy.
2...		24.550	59	36.5	24.511	36	36	100	E.	25	3.12		Stratus....	4-4	Hidden....						Cloudy.
3...		26.088	59	42.5	26.028	43	40.5	79.2	N. E.	12	.72		Stratus....	2-4	Cumulus ..	1-4	N. E.				Cloudy.
4...		27.312	58.5	47.5	27.258	48.5	46	81.5	S. E	5	.12		Stratus....	3-4	0	0					Cloudy.
Station 1...	5 0	23.925	66	33	23.850	33	33	100	N. E.	36	6.48		Stratus....	4-4	Hidden....						Cloudy.
2...		24.580	57	35.5	24.546	35	35	100	N. E.	24	2.88		Stratus....	4-4	Hidden....						Cloudy.
3...		26.100	56	41.5	26.057	42	41	91.4	N.	11	.60		Stratus....	1-4	Cumulus ..	2-4	N. E.				Fair.
4...		27.360	58	48	27.277	49	45	71.0	N. E.	6	.18		Stratus....	2-4	Cirro-cum .	1-4	E.				Cloudy.
Station 1...	6 0	23.93	66	33	23.855	33	33	100	N. E.	38	7.22		Stratus....	4-4	Hidden....						Cloudy.
2...		24.598	61	35	24.555	34.5	34.5	100	W.	22	2.42		Stratus....	4-4	Hidden....						Cloudy.
3...		26.129	58	41.5	26.071	42	40	82.9	N.	10	.50		0	0	Cumulus ..	3-4	N. E.				Fair.
4...		27.387	57	48	27.307	49	43.5	60.6	E.	7	.24		Stratus....	1-4	Cirro-cum .	2-4	E.				Cloudy.
Station 1...	7 0	23.960	63	33	23.891	33	33	100	N. E.	30	4.50		Stratus....	4-4	Hidden....						Cloudy.
2...		24.635	64	35	24.585	34.5	34.5	100	N.	23	2.64		Stratus....	4-4	Hidden....						Cloudy.
3...		26.165	61	43	26.101	43	41	91.4	N.	7	.24		Stratus....	1-4	Cumulus ..	1-4	N. E.				Fair.
4...		27.400	56.5	47.5	27.321	48.5	43.5	64.4	S. E.	8	.32		Stratus....	1-4	Cumulus ..	1-4	N. E.				Fair.
Station 1...	7 57	23.965	59	33	23.905	33	33	100	N. E.	40	8.00		Stratus ...	4-4	Hidden....						Cloudy.
2...		24.680	66	36	24.626	35	35	100	N. W.	16	1.28		Stratus....	4-4	Hidden....						Cloudy.
3...		26.181	58	42.5	26.122	43	40.5	91.0	N. W.	6	.18		Stratus....	1-4	Cumulus ..	1-4	N. E.				Fair.
4		27.422	57.5	48.5	27.341	49.5	44	61.1	E.	8	.32		Stratus....	1-4	Cumulus ..	1-4	N.				Fair.
Station 1...	9 0	23.997	57	34	23.925	34	33	90	N. E	36	6.48		Cumulus .	2-4	Cumulus ..	1-4	N. E.				Clearing up.
2...		24.701	66	38	24.647	38	37	90.5	N. W.	13	.84		Stratus...	2-4	Cirrus	1-4	N. W r.				Fair.
3...		26.186	54	45	26.132	45	41	68.4	N.	8	.32		0	0	Cumulus ..	2-4	N. E.				Fair.
4...		27.450	63	51	27.355	51	48	61.3	N. E.	2	.02		Stratus....	1-4	Cumulus ..	1-4	N. E.				Fair.
Station 1...	10 0	24.032	62	35	23.965	35	34	90	N. E.	30	4.50		Hazy......		Cumulus ..	1-4	N. E.				Fair.
2...		24.718	67	39.5	24.662	39	36	72.6	N. E.	18	1.62		0	0	Cumulus ..	2-4	N. E. r.				Fair.
3...		26.215	58	47	26.157	47	42	62.4	N.	11	.60		0	0	Cumulus ..	1-4	N. E.				Fair.
4...		27.453	60	55	27.366	56	47	45.5	N. W.	8	.32		Stratus....	1-4	0	0					Fair.

Station 1	11 0	24. 085	65	35	24. 019	35	32	89	N. E.	24	2. 88		Hazy		Cumulus	1-4	N. E.				Fair.
2		24. 719	64	42	24. 669	41	37	65. 3	N. E.	22	2. 42		0	0	Cumulus	2-4	N. E. r.				Fair.
3		26. 235	62	50	26. 168	50	43	51. 5	N.	7	. 24		0	0	Cumulus	1-4	N. E.				Fair.
4		27. 463	61. 5	58	27. 372	59	48	38. 1	S. E.	4	. 08		0	0	Cumulus	1-4	N. E.				Fair.
Station 1	12 0	24. 075	66	39	24. 000	39	36	72	N. E.	12	. 72		Hazy		Cumulus	1-4	N. E.				Fair.
2		24. 713	57	44	24. 679	43. 5	39	63. 2	N. E.	14	. 98		0	0	Cumulus	2-4	N. E. r.				Fair.
3		26. 240	63	52	26. 171	52	45	53. 5	N.	6	. 18		0	0	Cumulus	1-4	N. E.				Fair.
4		27. 470	64	61	27. 373	61	49	35. 3	N.	4	. 08	95	Stratus	1-4	0	0					Fair.
Station 1	*p. m.* 1 0	24. 078	68	40	23. 998	40	37	72	N. E.	14	. 98		Hazy		Cumulus	2-4	N. E.				Fair.
2		24. 749	63	46	24. 7[illegible]1	45	39	53. 3	N.	14	. 98		0	0	Cumulus	2-4	N. S.				Fair.
3		26. 245	65	54	26. 171	54	46	49. 3	N.	7	. 24		0	0	Cumulus	1-4	N. E.				Clear.
4		27. 479	67	62	27. 374	62	49	31. 7	N.	8	. 32		0	0	Cumulus	1-4	N. E.				Fair.
Station 1	2 0	24. 086	68	40	24. 006	40	37	72	N. E.	12	. 72		Hazy		Cumulus	1-4	N. E.				Fair.
2		24. 752	64	47	24. 701	46. 5	39	44. 1	N.	11	. 60		0	0	Cumulus	1-4	N. s.				Fair.
3		26. 250	66	55	26. 174	55	46	44. 5	N.	6	. 18		0	0	Cumulus	1-4	N. E.				Clear.
4		27. 480	68	62	27. 373	63	50	32. 9	N. W.	8	. 32		Stratus	1-4	0	0					Fair.
Station 1	3 0	24. 100	70	41	24. 016	41	37	65	N. E.	2	. 02		Hazy		Cumulus	1-4	N. E.				Fair.
2		24. 748	63	47	24. 700	46	39	47. 1	N.	11	. 60		0	0	Cumulus	1-4	N. s.				Fair.
3		26. 268	67	57	26. 190	57	47	41. 1	N.	4	. 08		0	0	Cumulus	1-4	N. E.				Clear.
4		27. 493	74	62	27. 371	63	50. 5	35. 1	N.	6	. 18		0	0	Cumulus	1-4	N.				Fair.
Station 1	4 0	24. 100	71	41	24. 014	41	37	65	E.	2	. 02		Hazy		Cumulus	1-4	N. E.				Fair.
2		24. 760	67	48	24. 702	47. 5	40	45. 4	N.	14	. 98		0	0	Cumulus	1-4	N. s.				Fair.
3		26. 265	69	56. 5	26. 182	56. 5	46. 5	40. 0	N. E.	5	. 12		0	0	Cumulus	1-4	N. E.				Clear.
4		27. 500	75. 5	62	27. 375	63	50. 5	35. 1	E.	6	. 18		Stratus	1-8	Cumulus	1-8	N.				Fair.
Station 1	4 57	24. 100	69	40	24. 018	40	37	72	E.	6	. 18		Hazy		Cumulus	1-4	N. E.				Fair.
2		24. 760	68	50. 5	24. 500	50. 5	42. 5	45. 6	N.	11	. 60		0	0	Cumulus	1-4	N. s.				Fair.
3		26. 268	68	56	26. 187	56	46	39. 9	N. E.	6	. 18		0	0	Cumulus	1-4	N. E.				Clear.
4		27. 505	73	60. 5	27. 386	60	49. 5	37. 7	N.	4	. 08		0	0	Cumulus	1-4	N. E.				Fair.
Station 1	6 0	24. 118	67	40	24. 040	40	37	72	E.	5	. 12		Hazy		Cumulus	1-4	N. E.				Fair.
2		24. 760	63	48. 5	24. 711	47. 5	42	62. 8	N.	11	. 60		0	0	Cumulus	1-4	N. s.				Fair.
3		26. 278	69	54	26. 195	54	46	49. 3	0	0	0		0	0	Cumulus	1-4	N. E.				Clear.
4		27. 498	69	59	27. 388	59	48	38. 1	E.	4	. 08		0	0	Cumulus	1-4	E.				Fair.
Station 1	7 0	24. 100	66	39	24. 020	39	37	81	E.	2	. 02		Hazy		Cumulus	1-8	N. E.				Fair.
2		24. 740	57	47	24. 707	46. 5	40. 5	54. 8	N.	10	. 50		0	0	Cumulus	1-4	N. s.				Fair.
3		26. 280	71	54	26. 191	54	46	49. 3	N.	5	. 12		0	0	Cumulus	1-4	N. E.				Clear.
4		27. 488	66	56. 5	27. 386	57	46. 5	38. 5	0	0	0		0	0	Cumulus	1-8					Clear.
Station 1	8 0	24. 095	65	38	24. 022	38	36	80	E.	12	. 72		Hazy		0	0					Clear.
2		24. 750	58	42	24. 715	42	38	66. 1	N.	6	. 18		Stratus	1-4	0	0					Fair.
3		26. 272	66	48	26. 195	48	43	63. 1	N.	4	. 08		0	0	0	0					Clear.
4		27. 478	64	50. 5	27. 381	51	46	65. 3	E.	2	. 02		0	0	0	0					Clear.
Station 1	9 0	24. 100	67	38	24. 022	38	36	80	E.	16	1. 28		Hazy		0	0					Clear.
2		24. 770	69	41. 5	24. 709	41. 5	37	61. 4	E.	8	. 32		Stratus	1-4	0	0					Fair.
3		26. 272	65	47	26. 197	47	42	62. 4	N. E.	4	. 08		0	0	0	0					Clear.
4		27. 485	64	48	27. 388	48. 5	46	81. 5	E.	4	. 08		0	0	0	0					Clear.
Station 1	10 0	24. 110	74	38	24. 018	38	36	80	E.	18	1. 62		0	0	0	0					Clear.
2		24. 778	69	41. 5	24. 717	41. 5	38	69. 9	N. E.	11	. 60		0	0	0	0					Clear.
3		26. 270	65	46	26. 195	46	41	61. 7	N. E.	4	. 08		0	0	0	0					Clear.
4		27. 475	60	46	27. 388	46	44	84. 3	E.	4	. 08		0	0	0	0					Clear.
Station 1	11 22	24. 105	77	36	24. 006	36	34	80	N. E.	20	2. 00		0	0	0	0					Clear.
2		24. 769	71	40. 5	24. 704	40. 5	36	60. 5	S. W.	8	. 32		0	0	0	0					Clear.
3		26. 249	61	46	26. 184	46	41	61. 7	N. E.	4	. 08		0	0	0	0					Clear.
4		27. 460	60	46	27. 371	46. 5	43	73. 2	E.	4	. 08		0	0	0	0					Clear.

Meteorological record for June 8, 1873—Continued.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN AND SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		
Station 1...	12 0 midnight.	24. 100	72	36	24. 012	36	34	80	N. E.	18	1. 62	....	0	0	0	0	......	......	......	......	Clear.
2...		24. 756	68	40	24. 698	40	36	64. 5	N.	4	. 08	390	0	0	0	0	......	......	......	......	Clear.
3...		26. 252	68	45	26. 185	45	41	68. 4	N. E.	4	. 08	190	0	0	0	0	......	......	......	......	Clear.
4...		27. 460	61	45	27. 370	46	42. 5	72. 9	E.	4	. 08	....	0	0	0	0	......	......	......	......	Clear.

Meteorological record for June 9, 1873.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN AND SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		
Station 1...	*a. m.* 1 0	24. 085	68	35	24. 005	35	33	80	N. E.	24	2. 88	....	0	0	0	0	......	......	......	......	Clear.
3...		24. 752	67	40. 5	24. 696	40	36	64. 5	N.	6	. 18	....	0	0	0	0	......	......	......	......	Clear.
3...		26. 240	63	45	26. 171	45. 5	41. 5	68. 8	N.	5	. 12	....	0	0	0	0	......	......	......	......	Clear.
4...		27. 462	61	44	27. 372	45	41. 5	72. 3	E.	4	. 08	....	0	0	0	0	......	......	......	......	Clear.
Station 1...	2 0	24. 075	66	35	24. 000	35	33	80	N. E.	20	2. 00	....	0	0	0	0	......	......	......	......	Clear.
2...		24. 733	62	40	24. 678	40	36	64. 5	N. W.	9	. 12	....	0	0	0	0	......	......	......	......	Clear.
3...		26. 240	63	45	26. 171	45. 5	41	63. 0	N. E.	6	. 18	....	0	0	0	0	......	......	......	......	Clear.
4...		27. 460	60	43	27. 373	44	40	67. 7	E.	4	. 08	....	0	0	0	0	......	......	......	......	Clear.
Station 1...	3 0	24. 075	65	34	24. 002	34	31	69	N. E.	20	2. 00	....	0	0	0	0	......	......	......	......	Clear.
2..		24. 745	70	39. 5	24. 682	39. 5	36	68. 5	N. E.	12	. 72	....	0	0	0	0	......	......	......	......	Clear.
3...		26. 240	64	46	26. 169	46. 5	41	58. 5	N. E.	5	. 12	....	0	0	0	0	......	......	......	......	Clear.
4 ..		27. 456	59	42. 5	27. 371	43. 5	39. 5	67. 3	N. E.	4	. 08	....	Hazy	....	0	0	......	......	......	......	Hazy.
Station 1..	4 0	24. 070	66	34	23. 995	34	31	69	N. E.	10	. 50	....	0	0	0	0	......	......	......	......	Clear.
2...		24. 735	65	39	24. 683	39	34	54. 7	N.	6	. 18	....	0	0	0	0	......	......	......	......	Clear.
3...		26. 240	63	44. 5	26. 171	45	39. 5	57. 0	E.	6	. 18	....	0	0	0	0	......	......	......	......	Clear.
4...		27. 462	56	42	27. 384	43	40	75. 0	E.	4	. 08	....	Hazy	....	0	0	......	......	......	......	Hazy.
Station 1...	5 0	24. 085	70	37	24. 001	37	34	71	N. E.	12	. 72	....	0	0	0	0	......	......	......	......	Clear.
2 ..		24. 750	69	39	24. 689	39	34. 5	58. 6	N. E.	7	. 24	....	Stratus ...	1-4	0	0	......	......	......	......	Clear.
3...		26. 240	61	43. 5	26. 176	44	40	67. 7	N. E.	6	. 18	....	0	0	0	0	......	......	......	......	Clear.
4...		27. 468	53	41. 5	27. 393	42. 5	39. 5	74. 7	E.	4	. 08	....	0	0	0	0	......	......	......	......	Clear.
Station 1...	6 0	24. 090	74	38	23. 998	38	35	71	N. E.	12	. 72	....	0	0	0	0	......	......	......	......	Clear.
2...		24. 749	66	42. 5	24. 695	42	37	57. 7	N. W.	8	. 32	....	Stratus ...	1-4	0	0	......	......	......	......	Clear.
3...		26. 234	56	44. 5	26. 181	44. 5	39. 5	60. 2	N. E.	4	. 08	....	0	0	0	0	......	......	......	......	Clear.
4...		27. 468	55. 5	43	27. 392	44	40. 5	71. 6	E.	3	. 04	....	0	0	0	0	......	......	......	......	Clear.

Station 1...	7 0	24. 088	75	39	24. 993	39	35	63	N. E.	7	. 24	....	0	0	0	0	....	....	....	....	Clear
2...		24. 735	62	43	24. 690	42. 5	37	54. 5	N.	12	. 72	....	Stratus ...	1-4	0	0	....	....	....	....	Clear.
3...		26. 233	59	47	26. 173	47	42	62. 4	N.	2	. 02	....	0	0	0	0	....	....	....	....	Clear.
4...		27. 462	55. 5	49. 5	27 387	50. 5	45. 5	64. 9	E.	1	. 01	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	7 57	24. 070	72	40	23. 982	40	35	56	N.	14	. 98	....	0	0	0	0	....	....	....	....	Clear.
2...		24. 725	62	44	24. 670	43. 5	37	47. 8	N.	11	. 60	....	Stratus ...	1-4	0	0	....	....	....	....	Clear.
3...		26. 235	61	49. 5	26. 171	50	44. 5	61. 4	0	0	0	....	0	0	0	0	....	....	....	....	Clear.
4...		27. 448	57	50	27. 368	51	43	69. 8	N.	2	. 02	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	9 0	24. 060	67	41	23. 982	41	36	60	N. E.	8	. 32	....	Hazy	....	0	0	....	....	....	....	Clear.
2...		24. 740	65	46	24. 688	46	38	40. 0	N.	14	. 98	....	Stratus ...	1-4	0	0	....	....	....	....	Clear.
3...		26. 235	61	53	26. 171	53	45	48. 3	N. W.	5	. 12	....	0	0	0	0	....	....	....	....	Clear.
4...		27. 447	59	58	27. 362	59	49	43. 2	S. E.	4	. 08	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	10 0	24. 075	66	42	24. 000	42	37	57	N.	10	. 50	....	0	0	0	0	....	....	....	....	Clear.
2...		24. 730	67	46. 5	24. 674	46	37	33. 0	N.	16	1. 28	....	Stratus ...	1-4	0	0	....	....	....	....	Clear.
3...		26. 235	63. 5	54	26. 165	54	44	37. 6	N. E.	4	. 08	....	0	0	0	0	....	....	....	....	Clear.
4...		27. 441	59	59. 5	27. 356	60	47	29. 3	N.	6	. 12	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	11 0	24. 058	66	44	23. 983	44	39	59	E.	4	. 08	....	Hazy	....	0	0	....	....	....	....	Clear.
2...		24. 725	64	49	24. 670	48. 5	40. 5	43. 2	N.	10	. 50	....	Stratus ...	1-4	0	0	....	....	....	....	Clear.
3...		26. 235	64	56	26. 164	56	46	39. 9	N. W.	4	. 08	....	0	0	0	0	....	....	....	....	Clear.
4...		27. 429	61	62	27. 339	63	49	28. 3	N.	6	. 18	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	12 m	24. 070	66	45	23. 995	45	40	60	E.	6	. 18	....	Hazy	....	0	0	....	....	....	....	Clear.
2...		24. 728	62	52	24. 683	51. 5	42	37. 5	N.	6	. 18	....	Stratus ...	1-4	0	0	....	....	....	....	Clear.
3...		26. 220	69	59	26. 137	59	47	33. 0	N.	4	. 08	....	0	0	0	0	....	....	....	....	Clear.
4...		27. 419	63	66	27. 324	66	52	31. 8	S. E.	4	. 08	1. 07	0	0	0	0	....	....	....	....	Clear.
	p. m.																				
Station 1...	1 0	24. 050	64	48	23. 979	48	43	62	S. E.	2	. 02	....	Hazy	....	Cumulus..	1-4	....	....	....	....	Fair.
2...		24. 740	71	54. 5	24. 675	53. 5	43. 5	36. 9	N.	8	. 32	....	Stratus ...	1-4	Cumulus..	1-4	....	....	....	....	Fair.
3...		26. 208	69	62	26. 125	62	50	36. 4	N. W.	2	. 02	....	0	0	Cumulus..	1-4	N. E.	....	....	....	Clear.
4...		27. 400	67	68	27. 295	68	53	20. 9	N. W.	6	. 18	...	0	0	Cumulus..	1-4	N. E.	....	....	....	Fair.
Station 1...	2 0	24. 045	66	48	23. 970	48	43	62	0	0	0	....	Hazy	....	Cumulus..	1-4	N. E.	....	....	....	Fair.
2...		24. 705	69	53. 5	24. 644	53	44	44. 5	N.	4	. 08	....	0	0	Cumulus..	1-4	N. E. s.	....	....	....	Fair.
3...		26. 190	72. 5	64	26. 099	64	52	38. 5	0	0	0	....	0	0	Cumulus..	1-4	N. E.	....	....	....	Clear.
4...		27. 381	69	69	27. 271	69	55	35. 0	N. W.	6	. 18	....	Stratus ...	1-4	Cumulus..	1-4	....	....	....	....	Fair.
Station 1...	3 0	24. 030	66	48	23. 955	48	42	56	W.	4	. 08	....	Hazy	....	Cumulus..	1-4	N.	....	....	....	Fair.
2...		24. 685	65	54	24. 633	53. 5	44	42. 2	N.	6	. 18	....	0	0	Cumulus..	1-4	N. E. s.	....	....	....	Fair.
3...		26. 182	75	64	26. 085	64	50	29. 5	N. W.	4	. 08	....	0	0	Cumulus..	1-4	N. E.	....	....	....	Clear.
4...		27. 370	74	71	27. 238	71	56	33. 0	N. W.	6	. 18	....	Stratus ...	1-4	Cumulus..	1-4	0	....	....	....	Fair.
Station 1...	4 0	24. 015	69	48	23. 933	48	43	62	0	0	0	....	Hazy	....	Cumulus..	1-8	N.	....	....	....	Fair.
2...		24. 670	66	58	24. 616	57	46	35. 8	N. W.	11	. 60	....	0	0	Cumulus..	2-4	N. s.	....	....	....	Fair.
3...		26. 160	74	64	26. 065	64	51	34. 0	N.	5	. 12	....	Hazy	....	Cumulus..	1-4	N. E.	....	....	....	Clear.
4...		27. 352	73	70	27. 233	70	55	32. 0	N. W.	6	. 18	....	Stratus ...	1-4	Cumulus..	1-4	....	....	....	....	Fair.
Station 1	4 57	24. 005	69	48	23. 923	48	43	62	0	0	0	....	Cumulus..	1-8	0	0	....	....	....	....	Fair.
2...		24. 659	67	56. 5	24. 603	56. 5	46	39. 9	N. W.	10	. 50	....	0	0	Cumulus..	1-4	N. s.	....	....	....	Fair.
3...		26. 142	73	64. 5	26. 050	64. 5	51. 5	34. 6	N. W.	5	. 12	....	Hazy	....	Cumulus..	1-4	N. E.	....	....	....	Clear.
4...		27. 330	75	69. 5	27. 206	69. 5	54	29. 5	N. W.	6	. 18	....	0	0	Cumulus..	2-4	....	....	....	....	Fair.
Station 1...	6 0	24. 100	70	47	24. 016	47	44	77	0	0	0	....	Hazy	....	0	0	....	....	....	....	Clear.
2...		24. 670	73	56	24. 601	55	45	38. 8	N. W.	14	. 98	....	0	0	Cumulus..	1-4	N. s.	....	....	....	Fair.
3...		26. 140	71	62	26. 052	62	52	46. 1	N. W.	5	. 12	...	Hazy	....	Cumulus..	1-4	N. E.	....	....	....	Clear.
4...		27. 328	76	66. 5	27. 201	66. 5	52	30. 2	N. W.	4	. 08	....	0	0	Cirrus	1-4	....	....	....	....	Fair.

Meteorological record for June 9, 1873—Continued.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'd.	Ended.		
Station 1...	*p. m.* 7 0	23.995	71	45	23.909	46	40	60	0	0	0	....	Smoky	....	0	0	....	....	....	....	Clear.
2...		24.638	60	52.5	24.597	52.5	42.5	35.6	N.	12	.72	....	Stratus ...	1-4	0	0	....	....	....	....	Clear.
3...		26.138	73	60	26.046	60	48	34.2	N. W.	1	.01	....	Hazy	...	0	0	....	....	....	....	Clear.
4...		27.330	71	60	27.216	59.5	52	56.8	0	0	0	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	8 0	23.970	65	43	23.897	43	39	66	0	0	0	....	Hazy	....	0	0	....	....	....	....	Clear.
2...		24.620	63	48	24.572	48	40	42.6	N. E.	8	.32	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
3...		26.130	71	54	26.042	54	46	49.3	0	0	0	....	Hazy	....	Cirrus	1-4	....	....	....	....	Clear.
4...		27.300	65	55	27.200	56	48	51.2	N. W.	2	.02	....	Stratus ...	1-8	0	0	....	....	....	....	Clear.
Station 1...	9 0	23.970	63	42	23.901	42	38	65	0	0	0	....	Hazy	....	0	0	....	....	....	....	Clear.
2...		24.620	60	46.5	24.579	46.5	39	44.1	N.	10	.50	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
3...		26.115	69	51	26.032	51	44	52.5	0	0	0	....	0	0	0	0	....	....	....	....	Clear.
4...		27.300	65	52	27.200	53	46.5	57.4	N.	2	.02	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	10 0	23.960	62	42	23.893	42	37	58	E.	10	.50	....	Hazy	....	0	0	....	....	....	....	Clear.
2...		24.618	61	45	24.575	45	38.5	49.5	N.	5	.12	....	0	0	Cirrus	1-4	N. s.	....	....	....	Fair.
3...		26.110	67	50	26.032	50	43	51.5	N. E.	2	.02	....	0	0	Cirrus	1-4	0	....	....	....	Clear.
4...		27.285	62	50	27.193	50	45	64.6	N.	4	.08	....	0	0	Cirrus	1-8	0	....	....	....	Clear.
Station 1 ..	11 22	23.944	63	41	23.875	41	36	57	N. E.	12	.72	....	0	0	0	0	0	....	....	....	Clear.
2...		24.616	66	44.5	24.562	44.5	37	41.6	N. E.	10	.50	....	0	0	0	0	0	....	....	....	Clear.
3...		26.000	66	48	26.014	48	41	49.4	N. E.	1	.01	....	0	0	0	0	0	....	....	....	Clear.
4...		27.260	59	47	27.175	47.5	42	59.4	N.	4	.08	....	0	0	0	0	0	....	....	....	Clear.
Station 1...	12 0 mid't.	23.940	65	40	23.867	40	35	56	N.	14	.98	....	0	0	0	0	0	....	....	....	Clear.
2...		24.590	63	44	24.542	44	36	37.2	N. E.	6	.18	220	0	0	0	0	0	....	....	....	Clear.
3 ..		26.080	66	48	26.004	48	41	49.4	N. E.	1	.01	84	0	0	0	0	0	....	....	....	Clear.
4...		27.255	61	46.5	27.165	47	42	62.4	N.	6	.18	....	0	0	0	0	0	....	....	....	Clear.

Meteorological record for June 10, 1873.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'd.	Ended.		
Station 1...	*a. m.* 1 0	23.945	68	40	23.865	40	35	56	N.	10	.50	...	0	0	0	0	....	....	....	....	Clear.
2...		24.590	65	44	24.538	44	36	37.2	N.E.	5	.12	....	0	0	Cirrus	1-4	N.E.s.	....	....	....	Fair.
3...		26.069	63	48	26.000	48	41	49.4	E.	1	.01	....	0	0	Cirro-strat	2-4	....	....	....	....	Fair.
4...		27.269	61	46.5	27.179	47.5	43	66.3	N.	4	.08	....	Stratus..	1-4	Cirrus	1-4	....	....	....	....	Fair.
Station 1...	2 0	23.945	69	40	23.863	40	35	56	N.	8	.32	....	0	0	Cirrus	2-4	N.	....	....	....	Fair.
2...		24.595	72	44	24.528	44	36	37.2	N.E.	6	.18	....	0	0	Cirrus	3-4	N.E.s.	....	....	....	Fair.
3...		26.060	61	48	25.996	48	41	46.6	0	0	0	....	0	0	Cirro-cum	4-4	....	....	....	....	Cloudy.
4...		27.260	60	47.5	27.182	48.5	42	60.2	N.	3	.04	....	Stratus....	1-4	Cirrus	2-4	....	....	....	....	Cloudy.

Station 1...	3 0	23.935	69	39	23.853	39	35	63	N.	4	.08	....	Stratus....	3-4	Hidden	....	....	....	....	....	Cloudy.
2...		24.585	68	45	24.527	45	36	31.4	N.E.	7	.24	....	0	0	Cirrus	3-4	N.E.a.	....	....	....	Fair.
3...		26.040	59	49	25.980	49	43	57.2	E.	2	.02	....	0	0	Cirro-cum.	3-4	....	....	....	....	Fair.
4...		27.270	59	47.5	27.185	48.5	43	60.2	N.	3	.04	....	Stratus....	1-4	Cirrus	1-4	....	....	....	....	Fair.
Station 1...	4 0	23.935	67	40	23.857	40	36	63	0	0	0	....	Stratus....	2-4	Cirrus	2-4	....	....	....	....	Cloudy.
2...		24.585	65	44.5	24.533	44	36	37.2	N.E.	12	.72	....	Stratus....	1-4	Cirrus	2-4	N.E.a.	....	....	....	Fair.
3...		26.048	58	47	25.990	47	41	55.4	E.	1	.01	...	0	0	Cirro-cum	2-4	N.E.	....	....	....	Fair.
4...		27.270	59	47.5	27.185	48.5	43	60.2	N.	3	.04	....	Stratus....	1-4	Cirrus	1-4	N.	....	....	....	Fair.
Station 1...	5 0	23.945	66	40	23.870	40	36	63	N.W.	4	.08	....	Stratus....	2-4	Cirrus	1-4	0	....	....	....	Fair.
2...		24.583	62	45	24.538	45	37	38.6	N.E.	14	.98	....	Stratus....	1-4	Cirrus	1-4	N.E.a.	....	....	....	Fair.
3...		26.037	56	47	25.985	47	40	48.3	E.	1	.01	....	0	0	Cirro-cum Cirro-strat	1-4 1-4	N. S.	....	....	....	Fair.
4...		27.269	58	46	27.186	47	42	62.4	N.	3	.04	....	Stratus....	1-4	Cirrus	2-4	....	....	....	....	Cloudy.
Station 1...	6 0	23.935	63	41	23.866	41	37	65	N.W.	12	.72	....	Stratus....	1-4	Cirrus	1-4	....	....	....	....	Fair.
2...		24.583	62	46.5	24.538	46	39	47.1	N.	16	1.20	....	0	0	Cirrus	1-4	N.E.a.	....	....	....	Fair.
3...		26.056	59	48.5	25.996	48.5	42	53.4	E.	1	.01	...	0	0	Cirro-cum	1-4	N.E.	....	....	....	Clear.
4...		27.270	57	46	27.190	47	42	62.4	N.	4	.08	....	Stratus....	1-4	Cirrus	1-4	N.	....	....	....	Fair.
Station 1...	7 0	23.935	63	43	23.866	43	37	58	N.W.	8	.32	....	Stratus....	1-4	Cirrus	1-4	....	....	....	....	Fair.
2...		24.595	65	48	24.543	47.5	40	45.4	N.W.	13	.84	....	Stratus....	1-4	Cirrus	1-4	N.E.a.	....	....	....	Fair.
3...		26.070	60	53	26.008	53	45	48.3	0	0	0	....	Hazy......	....	Cirro-cum	1-4	N.E.	....	....	....	Clear.
4...		27.264	58.5	49.5	27.180	50	48	85.6	N.E.	3	.04	....	Stratus....	2-4	Cirrus	1-4	....	....	....	....	Fair.
Station 1...	7 57	23.905	58	44	23.847	44	39	59	N.	10	.50	....	Hazy......	....	Cirrus	2-4	N.	....	....	....	Fair.
2...		24.595	64	50	24.545	49	40	37.3	N.	13	.84	....	0	0	Cirrus	2-4	N.a.	....	....	....	Fair.
3...		26.058	60	56	25.996	56	47.5	48.3	N.W.	2	.02	....	Hazy......	....	Cirro-cum	2-4	N.E.	....	....	....	Fair.
4...		27.268	60	58	27.181	59	50	48.4	N.	2	.02	....	0	0	Cirrus	2-4	N.	....	....	....	Fair.
Station 1...	9 0	23.910	60	47	23.847	47	42	62	E.	1	.01	....	Hazy......	....	Cirro-strat	2-4	....	....	....	....	Fair.
2...		24.580	60	53	24.539	52	42	35.0	N.	4	.08	....	Stratus....	1-4	Cirrus ...	2-4	....	....	....	....	Fair.
3 ..		26.060	61	58	25.996	58	47	37.0	N.E.	2	.02	....	Hazy......	...	Cirrus	3-4	N.E.	....	....	....	Fair.
4...		27.253	62	63	27.160	63	49	28.3	E.	2	.02	....	0	0	Cirrus	3-4	N.	....	....	....	Fair.
Station 1...	10 0	23.915	59	50	23.855	50	46	71	E.	5	.12	....	Hazy......	...	Cirro-strat	2-4	....	....	....	....	Fair.
2...		24.590	62	54	24.545	53	43.5	39.3	N.	12	.72	....	Stratus....	1-4	Cirrus	2-4	N.a.	....	....	....	Fair.
3...		26.058	64	61	25.987	61	49	35.3	N.W.	2	.02	....	Hazy......	....	Cirrus	2-4	N.E.	....	....	....	Fair.
4...		27.250	63	66	27.155	67	52	28.7	E.	4	.08	...	0	0	Cirrus	2-4	N.	....	....	....	Fair.
Station 1...	11 0	23.915	58	51	23.857	51	45	59	E.	4	.08	....	Hazy......	...	Cirro-strat	3-4	....	....	....	....	Fair.
2..		24.600	69	55	24.539	55	47	50.2	N.W.	11	.60	....	Stratus....	1-4	Cirrus	2-4	N.a.	....	....	....	Fair.
3...		26.058	64	63	25.987	63	52	42.2	N.W.	2	.02	....	Hazy......	....	Cirrus	1-4	N.E.	....	....	....	Fair.
4...		27.250	65	68	27.150	68	55	38.1	N.	4	.08	....	0	0	Cirrus	3-4	N.	....	....	....	Fair.
Station 1...	12 m.	23.920	58	53	23.862	53	46	54	0	0	0	....	Hazy......	....	Cirrus .... Cumulus..	1-4 1-4	N.W.	....	....	....	Fair.
2...		24.600	68	58	24.542	57	48	46.5	N.W.	11	.60	....	Stratus....	1-4	Cirrus	2-4	N.a.	....	....	....	Fair.
3...		26.060	68	65	25.979	65	53	39.5	N.	2	.02	....	Hazy......	....	Cumulus..	1-4	N.E.	....	....	....	Fair.
4...		27.249	67	70	27.146	70	56	35.9	N.	4	.08	96	Cumulus ..	1-4	Cirrus	1-4	N.	....	....	....	Fair.
Station 1...	*p. m.* 1 0	23.910	58	54	23.852	54	46	49	W.	4	.08	....	Hazy	....	Cirro-cum.	2-4	N. W.	....	....	....	Fair.
2...		24.620	82	61	24.531	61	50	48.4	N. W.	11	.60	....	Stratus ...	1-4	Cirrus	2-4	N. s.	....	....	....	Fair.
3...		26.060	71	65	25.972	65	53	39.5	N.	4	.08	....	Hazy	...	Cirro-cum.	2-4	N.	....	....	....	Fair.
4...		27.247	71	73	27.135	73	57	31.2	S. W.	6	.18	....	Hazy	....	Cumulus..	2-4	N.	....	....	....	Fair.
Station 1...	2 0	23.910	58	53	23.852	53	45	48	W.	6	.18	....	Hazy	....	Cumulus..	2-4	W.	....	....	....	Fair.
2...		24.612	79	60	24.530	60	49	79.2	W.	14	.98	....	Stratus ...	1-4	Cumulus..	2-4	N. s.	....	....	....	Fair.
3...		26.045	70	68	25.960	62	55	38.1	W.	10	.50	....	Smoky.....	....	Cumulus..	1-4	W.	....	....	....	Fair.
4...		27.241	74	74.5	27.121	75	60	36.7	N. W.	8	.32	....	Hazy	....	Cumulus..	1-4	N.	....	....	....	Fair.

Meteorological record for June 10, 1873—Continued.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		
	p. m.																				
Station 1...	3 0	23. 910	58	53	23. 852	53	45	48	W.	5	. 12	....	Hazy	...	Cumulus..	2-4	W.	....	....	....	Fair.
2...		24. 587	68	58	24. 529	58	48	42. 1	N. W.	13	. 84	....	Stratus ...	1-4	Cumulus..	2-4	W. s.	....	....	....	Fair.
3 ..		26. 045	70	65	25. 960	65	53	39. 5	W.	5	. 12	....	Smoky....	....	Cumulus..	2-4	W.	....	....	....	Fair.
4 ..		27. 240	76	74	27. 116	74	59	35. 8	N.	6	. 18	....	Hazy	....	Cumulus..	1-4	N.	....	....	....	Fair.
Station 1...	4 0	23. 910	60	53	23. 847	53	45	48	N. W.	7	. 24	...	Hazy	....	Cumulus..	1-4	W.	....	....	....	Fair.
2...		24. 570	66	63	24. 516	63	49	31. 7	W.	11	. 60	....	Stratus ...	1-4	Cumulus..	1-4	N. W. s.	....	....	....	Fair.
3 ..		26. 040	71	71	25. 952	71	55	29. 2	W.	5	. 12	....	Smoky....	....	Cumulus..	1-4	W.	....	....	....	Fair.
4 ..		27. 236	78	73	27. 107	73	56	27. 6	W.	8	. 32	....	Hazy	...	Cumulus..	1-4	N.	....	....	....	Fair.
Station 1...	4 57	23. 912	67	53	23. 834	53	44	42	N. W.	7	. 24	....	Hazy	....	Cumulus..	1-4	N. W.	....	....	....	Fair.
2 ..		24. 560	66	68	24. 506	61. 5	49	33. 5	W.	17	1. 44	....	Stratus ...	1-4	Cumulus..	1-4	N. W. s.	....	....	....	Fair.
3 ..		26. 040	72	70	25. 950	70	55	32	N. W.	5	. 12	....	Smoky...	....	Hazy	....	....	....	....	....	Clear.
4...		27. 230	79	72	27. 098	72	56	30. 2	N. W.	4	. 08	....	Hazy	....	Cumulus..	1-4	N. W.	....	....	....	Fair.
Station 1...	6 0	23. 935	76	51	23. 838	51	43	45	N. W.	10	. 50	....	Hazy	....	Cumulus..	1-8	N. W.	....	....	....	Fair.
2...		24. 570	66	61	24. 516	60	48. 5	36. 6	W.	7	. 24	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
3...		26. 055	79	69	25. 940	69	55	35. 0	W.	6	. 18	....	Smoky...	....	Hazy	....	....	....	....	....	Clear.
4 ..		27. 235	79	69. 5	27. 103	70	55. 5	34. 0	N. W.	6	. 18	...	0	0	Cirrus	1-4	....	....	....	....	Fair.
Station 1...	7 0	23. 930	83	49	23. 823	49	42	50	N. W.	12	. 72	....	Hazy	....	0	0	....	....	....	....	Clear.
2...		24. 578	70	57	24. 515	57. 5	46. 5	35. 8	W.	25	3. 12	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
3...		26. 050	74	65	25. 955	65	52	35. 1	S. W.	6	. 18	....	Smoky...	....	Cirrus	1-4	W.	....	....	....	Clear.
4 ..		27. 225	73	66	27. 108	66	53. 5	38. 3	N. W.	4	. 08	....	Hazy	....	Cirrus	1-4	....	....	....	....	Fair.
Station 1...	8 0	23. 940	82	48	23. 831	48	42	56	N. W.	18	1. 62	...	Hazy	....	0	0	....	....	....	....	Clear.
2...		24. 568	64	52	24. 518	51. 5	44	49. 8	W.	17	1. 44	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
3 ..		26. 039	71	58	25. 951	58	50	52. 9	N. E.	4	. 08	....	Smoky....	....	Cirro-strat.	1-4	W.	....	....	....	Clear.
4...		27. 205	67	57	27. 102	57. 5	50	55. 3	W.	2	. 02	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
Station 1...	9 0	23. 930	80	47	23. 825	47	42	62	W.	20	2. 00	....	Hazy	....	Cirro-cum	1-4	W.	....	....	....	Fair.
2...		24. 530	58	50. 5	24. 493	50. 5	44. 5	58. 5	S. W.	19	1. 80	....	Stratus ...	1-4	Cirrus	2-4	W. s.	....	....	....	Fair.
3...		26. 035	72	58	25. 945	58	48	42. 1	N. E.	4	. 08	....	Stratus ...	1-4	Cirro-cum	1-4	W.	....	....	....	Fair.
4...		27. 198	68	60	27. 093	60. 5	51	47. 2	S.	2	. 02	....	Stratus ...	1-4	Cirrus	2-4	....	....	....	....	Fair.
Station 1...	10 0	23. 922	84	47	23. 808	47	43	69	W.	20	2. 00	...	Stratus ...	1-4	Cumulus..	2-4	W.	....	....	....	Fair.
2...		24. 517	57	50	24. 483	50	44. 5	61. 4	S. W.	8	. 32	....	Stratus ...	2-4	Cirrus	1-4	W. s.	....	....	....	Fair.
3 ..		26. 010	70	57	25. 925	57	49	52. 1	N. E.	10	. 50	....	Stratus ...	1-4	Cirro-cum	2-4	W.	....	....	....	Fair.
4 ..		27. 190	68	62. 5	27. 185	62. 5	53	49. 0	S. W.	4	. 08	...	Stratus ...	1-4	Cirrus	2-4	W.	....	....	....	Fair.
Station 1 ..	11 22	23. 900	85	47	23. 784	47	43	69	S. W.	30	4. 50	....	Stratus ...	1-4	Cumulus..	3-4	S. W.	....	....	....	Cloudy.
5 ..		24. 490	61	50	24. 447	50	45. 5	67. 3	W.	29	4. 20	...	Stratus ...	3-4	Cirrus	1-4	W. r.	....	....	....	Cloudy.
3 ..		26. 000	70	57	25. 915	57	51	63. 4	S. W.	10	. 50	...	Stratus ...	4-4	Hidden	....	....	....	....	....	Cloudy.
4...		27. 175	66	61. 5	27. 075	63	53	51. 1	S.	2	. 02	....	Stratus ...	4-4	Hidden	....	....	....	....	....	Cloudy.

Station 1...	12 0 mid-night.	23.890	83	46	23.778	46	42	69	S. W.	36	6.48	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
2...		24.470	58	50	24.433	50.5	46.5	74.0	S. W.	20	2.00	340	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		25.978	70	57	25.893	57	51	63.4	S. W.	10	.50	103	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
4...		27.160	66	62	27.060	62	54	56.1	S.	4	.08	....	Stratus ...	1-4	Hidden ...	....	....	....	....	....	Cloudy.

Meteorological record for June 11, 1873.

	a. m.																				
Station 1...	1 0	23.880	83	46	23.762	46	42	69	S. W.	30	4.50	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
2...		24.477	63	51	24.429	51	48	79.0	W.	32	5.12	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Threatening.
3...		25.972	66	58	25.896	58	53	69.8	S. W.	7	.24	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
4...		27.102	66.5	62	27.061	63	59.5	80.3	S. W.	4	.08	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Station 1...	2 0	23.855	81	47	23.749	47	44	77	S. W.	24	2.88	....	Nimbus...	4-4	Hidden ...	....	....	2.00 a. m.	....	....	Light rain.
2 ..		24.475	63	49.5	24.427	49	47.5	88.9	W.	17	1.44	....	Nimbus...	4-4	Hidden ...	....	....	1.40 a. m.	....	....	Light rain.
3...		25.951	66	57	25.875	57	52.5	71.9	S. W.	6	.18	....	Nimbus...	4-4	Hidden ...	....	....	1.50 a. m.	....	....	Light rain.
4...		27.155	66	59	27.055	60	57.5	85.1	S.	2	.02	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Station 1...	3 0	23.860	75	45	23.766	45	44	92	N. W.	36	6.48	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Heavy rain.
2 ..		24.450	63	48.5	24.402	48.5	48.5	100	W.	28	3.92	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light rain.
3 ..		25.930	65	55	28.856	55	53.5	72.5	S. W.	4	.08	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light rain.
4 ..		27.149	66.5	57.5	27.048	58.5	55	78.8	S.	2	.02	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Station 1 ..	4 0	23.825	78	48	23.725	48	48	100	W.	24	2.88	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light rain.
2 ..		24.423	63	49	24.378	49	49	100	W.	94	2.88	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light rain.
3...		25.919	64	56	25.848	56	55	93.5	S. W.	5	.12	....	Nimbus ...	4-4	Hidden ...	....	....	....	....	....	Light rain.
4 ..		27.142	64	57	27.046	58	56.5	90.6	S. E.	2	.02	....	Nimbus...	4-4	Hidden ...	....	....	3.50 a. m.	....	....	Rain.
Station 1 ..	5 0	23.785	77	48	23.687	48	48	100	S. W.	20	2.00	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light rain.
2 ..		24.395	61	50	24.352	50	50	100	W.	32	5.12	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light rain.
3...		25.890	63	56	25.821	56	55	93.5	S.	8	.32	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light rain.
4 ..		27.120	65	57	27.020	58.5	56.5	87.6	S.	2	.02	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Rain.
Station 1 ..	6 0	23.775	71	48	23.690	48	48	100	S. W.	12	.72	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light rain.
2...		24.385	57	50	24.351	50	50	100	W.	28	3.92	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Heavy rain.
3...		23.893	63	56	25.826	56	55	93.5	S. W.	7	.24	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light rain.
4...		27.105	65	58	27.007	59	57	87.8	S. E.	2	.02	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Rain.
Station 1...	7 0	23.770	68	48	23.691	48	48	100	S. W.	12	.72	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light rain.
2 ..		24.415	63	50.5	24.367	50.5	50.5	100	W.	34	5.78	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light rain.
3 ..		25.911	64	55	25.840	55	55	100	N. W.	6	.18	....	Stratus ...	4-4	Hidden ...	....	....	....	6.45 a. m.	....	Cloudy.
4 ..		27.108	64	59.5	27.012	60	58	88.0	N. W.	1	.01	....	Nimbus ...	4-4	Hidden ...	....	....	....	....	....	Rain.
Station 1 ..	7 57	23.743	65	48	23.671	48	48	100	W.	28	3.92	....	Nimbus ...	4-4	Hidden ...	....	....	....	....	.15	Light rain.
2 ..		24.415	65	51	24.363	51	51	100	N. W.	39	7.60	....	Stratus ...	4-4	Hidden ...	....	....	....	7.10 a. m.	.76	Cloudy.
3 ..		25.910	64	56	25.839	56	55.5	96.7	N. W.	8	.32	...	Stratus ...	4-4	Hidden ...	....	....	....	....	.67	Cloudy.
4 ..		27.105	64	59.5	27.009	60	58.5	90.9	N. W.	2	.02	....	Stratus ...	4-4	Hidden ...	....	....	....	7.40 a. m.	.58	Cloudy.
Station 1 ..	9 0	23.738	63	48	23.670	48	48	100	W.	24	2.88	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light rain.
2 ..		24.410	59	50	24.371	50	50	100	N. W.	39	7.60	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3 ..		25.920	63	55.5	25.851	55.5	55	96.7	N. W.	6	.18	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
4 ..		27.115	65	60.5	27.017	61	59	88.2	N. W.	4	.08	...	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Station 1 ..	10 0	23.745	63	48	23.677	48	48	100	W.	20	2.00	....	Stratus ...	4-4	Hidden ...	....	....	....	9.30 a. m.	....	Cloudy.
2 ..		24.415	57	51	24.381	50.5	50.5	100	N. W.	32	5.12	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3 ..		25.938	66	56	25.862	56	56	100	N. W.	8	.32	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
4...		27.120	65	63	27.022	63.5	61	91.3	N. W.	8	.32	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.

Meteorological record for June 11, 1873—Continued.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'd.	Ended.		
Station 1...	a. m. 11 0	23. 765	63	48	23. 697	48	48	100	N. W.	18	1. 62	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
2...		24. 440	64	51. 5	24. 395	51	51	100	W.	37	6. 84	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		25. 938	66	56	25. 862	56	56	100	N. W.	8	. 32	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
4...		27. 131	67	63. 5	27. 028	64	56	57. 5	N. W.	8	. 32	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Station 1...	12 m.	23. 800	71	48	23. 715	48	48	100	N. W.	28	3. 38	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
2...		24. 403	67	51	24. 407	51	50. 5	96. 4	W.	38	7. 22	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		25. 950	68	56	25. 869	56	56	100	N. W.	6	. 18	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
4...		27. 149	68	64. 5	27. 044	65	61	78. 3	W.	6	. 18	98	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Station 1...	p. m. 1 0	23. 810	71	48	23. 725	48	47	92	N. W.	30	4. 50	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy
2...		24. 465	64	50. 5	24. 415	50	50	100	N. W.	31	4. 80	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3 ..		25. 980	69	56	25. 897	56	56	100	N. W.	5	. 12	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
4...		27. 175	69	64	27. 067	64	60	78. 0	N. W.	6	. 18	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Station 1...	2 0	23. 762	67	47	23. 685	47	46	92	W.	40	8. 00	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
2...		24. 470	59	49. 5	24. 431	49	49	100	W.	32	5. 12	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		25. 984	70	55	25. 903	55	55	100	N. W.	5	. 12	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
4...		27. 179	67	65	27. 066	65	61	78. 3	N. W.	6	. 18	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Station 1...	3 0	23. 750	62	47	23. 684	47	46	92	W.	36	6. 48	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
2...		24. 495	69	48. 5	24. 434	48	48	100	N. W.	43	9. 24	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		25. 992	64. 5	54	25. 920	54	53	93. 3	N. W.	6	. 18	....	Stratus ...	3-4	Cumulus..	1-4	N. W.	....	....	....	Clearing up.
4...		27. 207	67	62. 5	27. 104	63	59	77. 6	N.	6	. 18	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Station 1...	4 0	23. 760	60	46	23. 698	46	45	92	N. W.	44	9. 68	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
2...		24. 495	65	47	24. 443	47	47	100	N. W.	36	6. 48	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3..		26. 005	68	55	25. 924	55	53	86. 9	N. W.	8	. 32	....	Stratus ...	3-4	Cumulus..	1-4	N. W.	....	....	....	Cloudy.
4 ..		27. 201	69	65	27. 093	65. 5	60	70. 8	N. W.	8	. 32	....	Stratus ...	3-4	Hidden ...	....	....	....	....	....	Cloudy.
Station 1...	4 57	23. 750	58	45	23. 692	45	44	92	W.	50	4. 50	....	Stratus ...	4-4	Hidden ...	....	....	....	....	. 06	Cloudy.
2...		24. 500	61	47	24. 457	47	47	100	W.	40	8. 00	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		26. 010	67	54	25. 932	54	53	93. 3	N. W.	8	. 32	...	Stratus ...	3-4	Cumulus..	1-4	N. W.	....	....	....	Cloudy.
4 ..		27. 200	69	63	27. 092	63	57. 5	69. 6	W.	8	. 32	....	Stratus ...	3-4	0	0	....	....	....	....	Cloudy.
Station 1...	6 0	23. 814	64	43	23. 743	43	42	91	N. W.	36	6. 48	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
2...		24. 538	68	47	24. 480	47	46. 5	96. 1	W.	39	7. 60	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		26. 035	70	53	25. 950	53	52	93. 2	N. W.	6	. 18	....	Stratus ...	3-4	Cumulus..	1-4	N. W.	....	....	....	Cloudy.
4...		27. 231	69	61	27. 123	61	57	76. 9	N. W.	10	. 50	....	Stratus ...	3-4	0	0	....	....	....	....	Cloudy.
Station 1...	7 0	23. 800	63	43	23. 732	43	42	91	N. W.	30	4. 50	....	Stratus ...	4-4	Hidden .	....	....	....	....	....	Cloudy.
2...		24. 549	69	46	24. 488	46	46	100	W.	30	6. 48	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3 ..		26. 050	68	52	25. 969	52	51	93. 0	N. W.	12	. 72	....	Stratus ...	3-4	Cumulus	1-4	W.	....	....	....	Fair.
4...		27. 240	67	59	27. 137	59	55	76. 1	W.	6	. 18	....	Stratus ...	2-4	Cumulus..	2-4	....	....	....	....	Cloudy.

Station 1...	8 0	23.774	60	42	23.712	42	41	91	N. W.	38	7.22		Stratus	4-4	Hidden						Cloudy.
2...		24.510	55	44	24.450	44	44	100	W.	44	9.68		Stratus	4-4	Hidden						Cloudy.
3...		26.040	66	50	25.964	50	49	92.7	N. W.	12	.72		Stratus	3-4	Cumulus	1-4	W.				Cloudy.
4...		27.240	65	57	27.142	57	53	75.2	N. W.	6	.18		Stratus	2-4	Cumulus	2-4					Cloudy.
Station 1...	9 0	23.850	67	41	23.773	41	40	91	N. W.	24	2.88		Stratus	4-4	Hidden						Cloudy.
2...		24.510	53	43	24.484	43	43	100	W.	32	5.12		Stratus	4-4	Hidden						Cloudy.
3...		26.050	67	49	25.972	49	48	29.6	N. W.	12	.72		Stratus	4-4	Hidden						Cloudy.
4...		27.260	67	56	27.155	56.5	52	71.9	N. W.	4	.08		Stratus	4-4	Hidden						Cloudy.
Station 1...	10 0	23.850	69	40	23.769	40	39	91	N. W.	36	6.48		Stratus	4-4	Hidden						Cloudy.
2...		24.520	54	42	24.492	42	42	100	N. W.	31	4.80		Stratus	4-4	Hidden						Cloudy.
3...		26.052	64	48	25.981	48	47	92.5	N. W.	12	.72		Stratus	4-4	Hidden						Cloudy.
4...		27.270	62	54.5	27.178	55	51.5	77.4	N.	8	.32		Stratus	4-4	Hidden						Cloudy.
Station 1...	11 22	23.850	60	39	23.788	39	38	91	N. W.	22	2.42		Stratus	4-4	Hidden						Cloudy.
2...		24.538	56	40	24.506	40	40	100	N. W.	20	2.00		Stratus	4-4	Hidden						Cloudy.
3...		26.062	64	45.5	25.991	45.5	45.5	100	N. W.	12	.72		Stratus	3-4	Cumulus	1-4	W.				Cloudy.
4...		27.280	62	52.5	27.188	53	50	79.8	N. W.	6	.18		Stratus	4-4	Hidden						Cloudy.
Station 1...	12 0 mid- night.	23.840	64	39	23.769	39	38	91	N. W.	24	2.88		Stratus	4-4	Hidden						Cloudy.
2...		24.543	57	39.5	24.509	39	39	100	N. W.	18	1.62	790	Stratus	4-4	Hidden						Cloudy.
3...		26.060	62	45	25.993	45	45	100	N. W.	12	.72	168	Stratus	4-4	Hidden						Cloudy.
4...		27.285	62	52	27.193	52.5	50	82.9	N. W.	4	.08		Stratus	4-4	Hidden						Cloudy.

Meteorological record for June 12, 1873.

Station 1...	*a. m.* 1 0	23.845	69	39	23.764	39	38	91	N. W.	20	2.00		Stratus	4-4	Hidden						Cloudy.
2...		24.550	57	38.5	24.516	38.5	38.5	100	N. W.	8	.32		Stratus	4-4	Hidden						Cloudy.
3...		26.050	60	44	25.988	44	43.5	95.8	N. W.	11	.60		Stratus	4-4	Hidden						Cloudy.
4...		27.294	62	50	27.202	51	48	79.0	N. W.	3	.04		Stratus	2-4	Cumulus	1-4	N.				Cloudy.
Station 1...	2 0	23.835	65	38	23.762	38	38	100	N. W.	20	2.00		Nimbus	4-4	Hidden			1.50 a. m.			Light rain.
2...		24.567	64	37	24.517	37	37	100	N. W.	22	2.42		Stratus	4-4	Hidden						Cloudy.
3...		26.051	59	43.5	25.991	43.5	43	95.8	N. W.	6	.18		Stratus	4-4	Hidden						Cloudy.
4...		27.295	61	50	27.205	51	48	79.0	N.	3	.04		Stratus	4-4	Hidden						Cloudy.
Station 1...	3 0	23.800	64	35	23.748	35	34	90	N. W.	16	1.28		Stratus	4-4	Hidden				2.55 a. m.		Cloudy.
2...		24.560	65	37	24.508	36.5	36.5	100	S. W.	16	1.28		Stratus	4-4	Hidden						Cloudy.
3...		26.060	59	42	26.000	42	41.5	95.6	N. W.	5	.12		Stratus	4-4	Hidden						Cloudy.
4...		27.295	59.5	48	27.209	48.5	46	81.5	N. W.	2	.02		Stratus	1-4	Cumulus	2-4	N.				Cloudy.
Station 1...	4 0	23.830	54	33	23.780	33	32	90	N. W.	12	.72		Stratus	4-4	Hidden						Cloudy.
2...		24.579	62	35.5	24.534	35	35	100	S. W.	20	2.00		Stratus	4-4	Hidden						Cloudy.
3...		26.064	57	41.5	26.999	45	41	95.6	N.	5	.12		Stratus	4-4	Hidden						Cloudy.
4...		27.301	58	46	27.218	47	44	77.2	N. W.	1	.01		Stratus	4-4	Hidden						Cloudy.
Station 1...	5 0	23.795	54	32	23.745	32	31	89	N. W.	30	4.50		Stratus	4-4	Hidden						Cloudy.
2...		24.579	63	34.5	24.531	34	34	100	S. W.	14	.98		Stratus	4-4	Hidden						Cloudy.
3...		26.070	56	39.5	26.017	39.5	38	86.3	N.	6	.18		Stratus	2-4	0	0					Fair.
4...		27.318	57	45	27.238	46	43.5	80.5	S. E.	1	.01		Stratus	2-4	0	0					Fair.
Station 1...	6 0	23.855	73	34	23.766	34	32	79	N. W.	8	.32		Stratus	2-4	0	0					Fair.
2...		24.590	63	34.5	24.442	34	33.5	94.7	N. W.	10	.50		Stratus	3-4	0	0					Clearing up.
3...		26.077	55	37.5	26.026	37.5	37	95.2	N.	2	.02		Stratus	1-4	Cumulus	1-4	N. W.				Fair.
4...		27.332	54.5	44	27.258	44.5	42	79.8	E.	2	.02		Stratus	2-4	0	0					Fair.

Meteorological record for June 12, 1873—Continued.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'd.	Ended.		
	a. m.																				
Statio 1...	7 0	23.875	73	33	23.785	33	31	79	N. W.	4	.08	....	Cumulus..	1-4	0	0	....	....	....	....	Fair.
2...		24.570	55	34	24.540	33.5	33.5	100	N. W.	10	.50	....	Stratus...	2-4	0	0	....	....	....	....	Clearing up.
3...		26.090	56	39.5	26.037	39	38	86.3	N.	2	.02	....	Stratus...	1-4	Cumulus..	1-4	N. W.	....	....	....	Fair.
4...		27.332	53	47	27.262	48	44	70.4	E.	2	.02	....	Stratus...	1-4	Cirrus....	1-4	N.	....	....	....	Fair.
Station 1...	7 57	23.883	79	32	23.780	32	31	89	N. W.	30	4.50	....	Cumulus..	1-4	0	0	....	....	....	.04	Fair.
2...		24.590	60	35.5	24.549	35	35	100	N. W.	6	.18	...	Stratus...	4-4	Hidden...	....	....	....	....	....	Cloudy.
3...		26.100	55	40.5	26.049	40.5	39.5	91.0	N.	5	.12	....	Stratus...	1-4	Cumulus..	2-4	N. W.	....	....	....	Fair.
4...		27.333	53	47	27.263	47	42	62.4	E.	4	.08	....	0	0	Cumulus..	2-4	N. W.	....	....	....	Fair.
Station 1...	9 0	23.904	69	33	23.822	33	32	89	N. W.	24	2.88	....	Cumulus..	1-4	0	0	....	....	....	....	Fair.
2...		24.590	59	38	24.551	37.5	36	85.6	W.	14	.98	....	Stratus...	4-4	Hidden...	....	....	....	....	....	Cloudy.
3...		26.122	49.5	41.5	26.084	41.5	39	78.4	N. W.	2	.02	....	Stratus...	1-4	Cumulus..	2-4	N. W.	....	....	....	Fair.
4...		27.358	56	49.5	27.280	50	43	51.5	N. W.	4	.08	....	0	0	Cumulus..	2-4	N. W.	....	....	....	Fair.
Station 1...	10 0	24.000	66	34	23.925	34	32	79	N. W.	18	1.63	....	Cumulus..	1-4	0	0	....	....	....	....	Fair.
2...		24.605	65	38.5	24.553	38	36	81.1	N. W.	24	2.88	....	Stratus...	2-4	0	0	....	....	....	....	Fair.
3...		26.120	58	45	26.067	45	42	76.2	N. W.	7	.24	...	0	0	Cumulus..	2-4	N. W.	....	....	....	Fair.
4...		27.360	56	52	27.282	51.5	44	49.8	N.	6	.18	....	0	0	Cumulus..	2-4	N. W.	....	....	....	Fair.
Station 1 ...	11 0	23.915	68	35	23.835	35	34	90	N. W.	20	2.00	....	Cumulus..	1-4	0	0	....	....	....	....	Fair.
2...		24.625	69	40.5	24.564	40	37.5	77.6	N. W.	16	1.28	....	Stratus...	3-4	0	0	....	....	....	....	Fair.
3...		26.130	58	46	26.072	46	42.5	72.6	N. W.	5	.12	....	0	0	Cumulus..	3-4	N. W.	....	....	....	Fair.
4...		27.362	57	53	27.282	53	46	54.4	N. W.	6	.18	....	0	0	Cumulus..	2-4	N. W.	....	....	....	Fair.
Station 1...	12 m.	23.932	72	36	23.844	36	34	80	N. W.	16	1.28	....	Cumulus..	1-4	0	0	....	....	....	....	Fair.
2...		24.628	66	42	24.574	41.5	38	69.9	N. W.	24	2.88	....	Stratus...	3-4	0	0	....	....	....	....	Fair.
3...		26.136	59	49	26.076	49	43.5	60.2	N. W.	6	.18	...	0	0	Cumulus..	3-4	N. W.	....	....	....	Fair.
4...		27.382	59.5	56	27.296	56	48	51.2	N. W.	8	.32	...	0	0	Cumulus..	2-4	N. W.	....	....	....	Fair.
	p. m.																				
Station 1...	1 0	23.958	68	36	23.880	36	35	90	N. W.	20	2.00	....	Stratus...	4-4	Hidden...	....	....	....	....	....	Cloudy.
2 ..		24.633	67	41	24.577	40.5	37.5	73.5	W.	14	.98	....	Stratus...	3-4	0	0	....	....	....	....	Fair.
3 ..		26.140	59	48.5	26.080	48.5	43	60.2	N. W.	7	.24	....	0	0	Cumulus..	3-4	N. W.	....	....	....	Fair.
4...		27.302	60.5	57	27.304	57	44	46.6	W.	8	.32	....	Stratus...	1-4	Cumulus..	2-4	N. E.	....	....	....	Cloudy.
Stati. 1...	2 0	23.940	65	35	23.867	35	34	90	N. W.	18	1.62	....	Stratus...	4-4	Hidden...	....	....	....	....	....	Cloudy.
2 .		24.630	58	40	24.593	39.5	37	77.3	N. W.	13	.84	....	Stratus...	3-4	0	0	....	....	....	....	Fair.
3 ..		26.160	68	47	26.079	47	42	62.4	N. W.	7	.24	....	0	0	Cumulus	3-4	N. W.	....	....	....	Fair.
4 ..		27.345	58	54	27.302	54.5	53	90.1	N. W.	4	.08	....	0	0	Cumulus..	3-4	N. E.	....	....	....	Cloudy.
Station 1...	3 0	23.933	61	35	23.870	35	34	90	N. W.	24	2.88	....	Stratus...	4-4	Hidden...	....	....	....	....	....	Cloudy.
2...		24.643	63	41	24.595	40	37.5	77.6	W.	22	2.42	....	Stratus...	3-4	0	0	....	....	....	....	Fair.
3 ..		26.169	66.5	54.5	26.092	54.5	45	41.1	N. W.	7	.24	....	0	0	Cumulus..	3-4	N. W.	....	....	....	Fair.
4...		27.390	60	49	27.303	50	47	78.6	W.	4	.08	....	0	0	Cumulus..	2-4	N. E.	....	....	....	Fair.

Station 1...	4 0	23.953	60	36	23.890	36	35	90	N. W.	20	2.00	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy
2...		24.643	58	38.5	24.606	37.5	36.5	90.4	N. W.	13	.84	....	Stratus ...	3-4	0	0	....	....	....	....	Fair.
3...		26.190	66	47.5	26.114	47.5	43	66.3	N. W.	6	.18	...	0	0	Cumulus ..	3-4	N. W.	....	....	....	Fair.
4...		27.401	59	59	27.316	59	51	53.7	N. W.	4	.08	....	0	0	Cumulus ..	2-4	N. W.	....	....	....	Fair.
Station 1...	4 57	23.963	66	33	23.888	33	32	89	N. W.	18	1.62	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
2...		24.658	57	37	24.624	37	36	90.5	W.	12	.72	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		26.202	65	44	26.128	44	41	75.6	N. W.	6	.18	....	0	0	Cumulus ..	3-4	N. W.	....	....	....	Fair.
4...		27.432	58	51.5	27.349	52.5	45.5	53.9	N. W.	5	.12	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Station 1...	6 0	23.990	66	33	23.915	33	32	89	N. W.	22	2.42	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
2...		24.668	58	36	24.631	36	35	90.0	N. W.	13	.84	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		26.220	67	42.5	26.142	42.5	40	78.9	N. W.	5	.12	....	0	0	Cumulus ..	3-4	N. W.	....	....	....	Fair.
4...		27.430	56	50	27.352	50	45	64.6	N. W.	2	.02	....	Stratus ...	3-4	0	0	....	....	....	....	Cloudy.
Station 1...	7 0	24.000	63	33	23.931	33	31	79	N. W.	16	1.28	....	0	0	Cumulus ..	2-4	N. W.	....	....	....	Fair.
2...		24.693	57	36	24.659	36	35	90.0	N. E.	8	.32	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		26.220	64.5	46	26.148	46	42	69.1	0	0	0	....	0	0	Cumulus ..	2-4	N. W.	....	....	....	Fair.
4...		27.435	56	49	27.357	50	45	64.6	0	0	0	....	Stratus ...	1-4	Cirrus	1-4	....	....	....	....	Fair.
Station 1...	8 0	24.022	61	32	23.957	32	31	89	N.	24	2.88	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
2...		24.680	53	35	24.654	35	34	89.8	N. E.	14	.98	....	Stratus ...	2-4	0	0	0	....	....	....	Fair.
3...		26.235	63	43	26.166	43	41	83.3	N. E.	7	.24	....	0	0	Cumulus ..	1-4	N.	....	....	....	Clear.
4...		27.455	55	46	27.380	46.5	44	80.7	N. W.	2	.02	....	Stratus ...	2-4	0	0	....	....	....	....	Fair.
Station 1...	9 0	24.030	67	33	24.952	33	31	79	N.	30	4.50	....	0	0	0	0	....	....	....	....	Clear.
2...		24.698	59	36	24.659	36	34	80.2	N. E.	11	.60	....	Stratus ...	1-4	0	0	....	....	....	....	Clear.
3...		26.218	64	42.5	26.147	42.5	39	70.6	N. E.	12	.72	...	0	0	0	0	....	....	....	....	Clear.
4...		27.458	60	43	27.371	44	42	83.6	N. W.	2	.02	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	10 0	24.050	69	33	23.968	33	31	79	N.	32	5.12	....	0	0	0	0	....	....	....	....	Clear.
2...		24.698	55	36	24.668	36	34	80.2	N. E.	12	.72	....	0	0	0	0	....	....	....	....	Clear.
3...		26.230	63	41	26.161	41	39	82.4	N. E.	12	.72	....	0	0	0	0	....	....	....	....	Clear.
4...		27.468	59	42	27.383	42.5	40	78.9	N.	2	.02	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	11 22	24.070	65	32	23.997	32	30	79	N.	36	6.48	...	0	0	0	0	....	....	....	....	Clear.
2...		24.719	57	36	24.684	36	34	80.2	N. E.	14	.98	....	0	0	0	0	....	....	....	....	Clear.
3...		26.250	65	41	26.176	41	39	82.4	N. E.	12	.72	....	0	0	0	0	....	....	....	....	Clear.
4...		27.485	56	41	27.407	41.5	40	86.9	N.	2	.02	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	12 0 mid-night.	24.070	64	32	23.999	32	30	79	N.	40	8.00	...	0	0	0	0	....	....	....	....	Clear.
2...		24.729	61	37	24.685	36	33	70.5	N. E.	19	1.88	370	0	0	0	0	....	....	....	....	Clear.
3...		26.255	64	42	26.184	42	39.5	86.6	N. E.	12	.72	118	0	0	0	0	....	....	....	....	Clear.
4...		27.470	56	40	27.392	40.5	39	86.6	N.	4	.08	....	0	0	0	0	....	....	....	....	Clear.

Meteorological record for June 13, 1873.

	a. m.																				
Station 1...	1 0	24.065	60	33	24.002	33	31	79	N.	30	4.50	....	0	0	0	0	....	....	....	....	Clear.
2...		24.770	72	37	24.702	36.5	34	75.6	N. E.	13	.84	....	0	0	0	0	....	....	....	....	Clear.
3...		26.240	55	43	26.189	43	39	66.9	E.	8	.32	....	0	0	0	0	....	....	....	....	Clear.
4...		27.479	55	39.5	27.404	40.5	39	86.6	0	0	0	....	Stratus ...	3-4	0	0	....	....	....	....	Cloudy.
Station 1...	2 0	24.100	72	33	24.012	33	31	79	N. E.	12	.72	....	0	0	0	0	....	....	....	....	Clear.
2...		24.768	63	36.5	24.719	36	33.5	75.3	N. E.	14	.98	....	0	0	0	0	....	....	....	....	Clear.
3...		26.218	55	42	26.197	42	38.5	69.9	E.	5	.12	....	0	0	0	0	....	....	....	....	Clear.
4...		27.482	53	39	27.412	40	37.5	77.6	0	0	0	...	Stratus ...	2-4	0	0	....	....	....	....	Clearing.

Meteorological record for June 13, 1873—Continued.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		
	a. m.																				
Station 1...	3 0	24.095	73	32	24.005	32	31	89	0	0	0	....	0	0	0	0	....	....	....	....	Clear.
2...		24.776	67	36	24.719	36	33.5	75.3	N. E.	11	.60	....	Stratus...	1-4	0	0	....	....	....	....	Fair.
3..		26.257	55.5	42	26.205	42	38	66.1	E.	3	.04	....	0	0	0	0	....	....	....	....	Clear.
4...		27.492	51	39	27.427	40	38	82.0	0	0	0	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	4 0	24.105	75	32	24.010	32	30	79	0	0	0	....	Stratus...	1-8	0	0	....	....	....	....	Clear.
2..		24.780	69	36	24.726	36	32.5	66.7	N. E.	10	.50	....	Stratus...	1-4	0	0	....	....	....	....	Fair.
3...		26.240	54	42	26.192	42	38	66.1	S. E.	4	.08	....	0	0	0	0	....	....	....	....	Clear.
4...		27.495	51	39	27.430	40	38	82.0	0	0	0	....	0	0	0	0	....	....	....	....	Clear.
1..	5 0	24.100	75	34	24.005	34	30	61	N. E.	8	.32	....	0	0	0	0	....	....	....	....	Clear.
2..		24.758	63	37.5	24.709	37	33	61.9	N. E.	8	.32	....	Stratus...	1-4	Cirrus....	1-4	N. s	....	....	....	Fair.
3...		26.240	55	42	26.188	42	39	74.4	S.	2	.02	...	0	0	Cirrus....	3-4	....	....	....	....	Fair.
4...		27.492	51	39	27.427	40	38	82.0	N. E.	3	.04	....	Stratus...	1-4	0	0	....	....	....	....	Fair.
Station 1...	6 0	24.095	70	35	24.011	35	31	61	0	0	0	....	0	0	0	0	....	....	....	....	Clear.
2...		24.750	61	40	24.706	39.5	35.5	64	N. E.	8	.32	....	Stratus...	1-4	Cirrus....	1-4	N. s.	....	....	....	Fair.
3..		26.246	57	43	26.193	43	39	66.9	S. E.	2	.02	....	0	0	Cirrus....	3-4	....	....	....	....	Fair.
4...		27.490	50.5	40.5	27.426	41.5	39	78.4	N. E.	4	.08	....	0	0	Cirrus...	2-4	....	....	....	....	Fair.
Station 1..	7 0	24.105	75	37	24.010	37	33	62	N. E.	8	.32	....	Stratus...	1-8	Cirrus....	1-4	....	....	....	....	Fair.
2...		24.749	58	40.5	24.712	40.5	35.5	55.7	E.	7	.24	....	Stratus...	1-4	Cirrus....	1-4	E.	....	....	....	Fair.
3...		26.249	56	45	26.196	45	41	68.4	E.	2	.02	....	0	0	Cirrus....	3-4	....	....	....	....	Fair.
4...		27.485	53	48	27.415	49	44	63.8	N. E.	4	.08	....	0	0	Cirrus....	2-4	....	....	....	....	Fair.
Station 1...	7 57	24.115	75	38	24.020	38	34	63	N. E.	5	.12	...	0	0	Cirro-strat	1-4	....	....	....	....	Fair.
2..		24.770	62	42.5	24.714	42.5	39.5	74.7	E.	7	.24	....	Stratus...	2-4	Cirrus....	2-4	E.	....	....	....	Cloudy.
3...		26.263	57.5	47	26.203	47	42	62.5	W.	1	.00	....	0	0	Cirrus....	3-4	0	....	....	....	Fair.
4..		27.492	54.5	52	27.418	53	45	48.3	N. E.	2	.02	....	0	0	Cirrus....	2-4	N.	....	....	....	Fair.
Station 1..	9 0	24.100	64	39	24.020	39	36	72	0	0	0	...	0	0	Cirrus...	2-4	....	....	....	....	Fair.
2...		24.760	62	47	24.714	46	41	61.7	W.	2	.02	....	Stratus...	1-4	Cirrus....	2-4	....	....	....	....	Fair.
3..		26.265	57	50	26.210	50	45	64.6	W.	4	.08	....	0	0	Cirrus...	2-4	....	....	....	....	Fair.
4..		27.490	56	56	27.412	56	48	51.2	N. W.	4	.08	....	Stratus...	1-4	Cirrus....	2-4	....	....	....	....	Fair.
Station 1...	10 0	24.110	62	42	24.043	42	38	65	0	0	0	....	0	0	Cumulus..	2-4	....	....	....	....	Fair.
2...		24.780	62	48.5	24.734	47.5	42	59.4	W.	2	.02	....	0	0	Cumulus..	2-4	N.	....	....	....	Fair.
3...		26.274	58	54.5	26.214	54.5	47	52.7	W.	1	.01	....	0	0	Cumulus..	3-4	....	....	....	....	Fair.
4...		27.500	57	58	27.420	58	49	47.5	E.	4	.08	....	Stratus...	2-4	Cirrus....	1-4	....	....	....	....	Cloudy.
Station 1...	11 0	24.110	64	42	24.039	42	38	65	0	0	0	....	0	0	Cumulus..	3-4	....	....	....	....	Fair.
2 ..		24.775	63	50	24.726	49	42.5	53.9	W.	6	.18	....	0	0	Cumulus..	2-4	W.	....	....	....	Fair.
3 ..		26.270	59	56	26.210	56	47.5	47.9	S. W.	8	.32	....	0	0	Cumulus..	2-4	S. W.	....	....	....	Fair.
4...		27.494	60	60	27.407	61	49	35.3	S. E.	4	.08	....	Cumulus..	2-4	Cirrus....	1-4	....	....	....	....	Fair.

Station 1...	12 m.	24. 120	70	42	24. 036	42	38	65	0	0	0	....	0	0	Cumulus..	2-4	....	....	....	....	Fair.
2...		24. 770	63	51. 5	24. 721	50. 5	48. 5	85. 7	W.	11	.60	....	0	0	Cumulus..	2-4	W.	....	....	....	Fair.
3...		26. 262	60	57	26. 200	57	48	46. 5	S.W.	6	.18	....	0	0	Cumulus..	2-4	S.	....	....	....	Fair.
4 ..		27. 489	61	62	27. 399	62	50	36. 4	W.	4	.08	69	0	0	Cumulus..	2-4	W.	....	....	....	Fair.
	p. m.																				
Station 1...	1 0	24. 110	70	44	24. 036	44	39	60	0	0	0	....	0	0	Cumulus..	2-4	....	....	....	....	Fair.
2...		24. 770	67	53	24. 713	52	44. 5	49. 9	W.	8	.32	....	0	0	Cumulus..	2-4	W.	....	....	....	Fair.
3...		26. 268	67	59. 5	26. 190	59. 5	50	46. 3	S. W.	7	.24	....	0	0	Cumulus..	2-4	W.	....	....	....	Fair.
4...		27. 480	64	65	27. 383	65	52	35. 1	N. W.	4	.08	....	0	0	Cumulus..	2-4	S. W.	....	....	....	Fair.
Station 1 ..	2 0	24. 100	68	45	24. 020	45	40	60	0	0	0	....	0	0	Cumulus..	1-4	....	....	....	....	Fair.
2...		24. 750	62	51	24. 704	50	43. 5	54. 8	S. W.	11	.60	....	0	0	Cumulus..	2-4	W.	....	....	....	Fair.
3...		26. 260	68	62	26. 178	62	51. 5	43. 2	W.	7	.24	....	0	0	Cumulus..	2-4	S. W.	....	....	....	Fair.
4...		27. 469	66	65	27. 367	65	53	39. 5	W.	4	.08	....	0	0	Cumulus.	2-4	S. W.	....	....	....	Fair.
Station 1...	3 0	24. 090	71	44	24. 004	44	39	60	W.	5	.12	....	0	0	Cumulus..	1 8	W.	....	....	....	Fair.
2 ..		24. 735	59	54	24. 696	53	45	48. 3	W.	14	.98	....	0	0	Cumulus..	1-4	W.	....	....	....	Fair.
3 ..		26. 250	68. 5	62	26. 168	62	52	46. 1	S. W.	11	.60	....	0	0	Cumulus..	1-4	S. W.	....	....	....	Clear.
4...		27. 469	70	64	27. 347	63. 5	52	40. 3	W.	6	.18	....	Cumulus..	1-4	Cirrus	1-4	N. W.	....	....	....	Fair.
Station 1...	4 0	24. 080	67	44	24. 002	44	39	60	W.	2	.02	....	Hazy	....	Cumulus..	1-8	....	....	....	....	Fair.
2...		24. 735	68	52. 5	24. 676	52	44. 5	50. 3	S. W.	14	.98	....	Stratus ...	1-4	Cumulus..	1-4	S. W.	....	....	....	Fair.
3...		26. 240	70	62	26. 154	62	52	46. 1	S. W.	8	.32	....	0	0	Cumulus..	1-4	S. W.	....	....	....	Clear.
4...		27. 450	70	63	27. 338	63	52	42. 2	W.	6	.18	....	0	0	Cumulus..	1-8	W.	....	....	....	Clear.
Station 1...	4 57	24. 055	67	44	23. 977	44	39	60	W.	2	.02	....	Hazy	....	Cumulus..	1-8	....	....	....	....	Fair.
2...		24. 729	64	50	24. 679	50	44. 5	61. 4	S. W.	13	.84	....	0	0	Cirrus	1-4	S. W.	....	....	....	Clear.
3...		26. 230	67	61	26. 151	61	51	45. 2	S. W.	8	.32	...	0	0	Cumulus..	1-4	S. W.	....	....	....	Clear.
4...		27. 442	71	61	27. 328	61	51. 5	47. 6	W.	4	.08	....	0	0	Cumulus .	1-4	W.	....	....	....	Clear.
Station 1...	6 0	24. 055	65	42	23. 982	42	38	65	W.	10	.50	....	Hazy	....	0	0	....	....	....	....	Clear.
2...		24. 718	61	49	24. 674	49	44	63. 8	S. W.	10	.50	....	0	0	Cirrus ...	1-4	S. W.	....	....	....	Clear.
3...		26. 220	65	58	26. 146	58	49. 5	49. 7	S.	5	.12	....	0	0	Cumulus..	1-4	S. W.	....	....	....	Clear.
4...		27. 448	71	59	27. 334	59. 5	50	46. 3	W.	4	.08	....	0	0	Cumulus..	1-8	W.	....	....	....	Clear.
Station 1...	7 0	24. 060	70	41	23. 976	41	38	73	W.	4	.08	....	Hazy	....	0	0	....	....	....	....	Clear.
2...		24. 720	64	47	24. 670	47	42	62. 4	S. W.	12	.72	....	0	0	Cirrus	1-4	S. W.	....	....	....	Clear.
3...		26. 230	67. 5	56	26. 151	56	48	51. 2	N. E.	5	.12	....	0	0	Cumulus..	1-4	S. W.	....	....	....	Clear.
4...		27. 440	66	57	27. 338	57. 5	49. 5	52. 5	S. W.	4	.08	....	Stratus ...	1-8	0	0	....	....	....	....	Clear.
Station 1...	8 0	24. 060	72	39	23. 972	39	37	81	W.	4	.08	....	Hazy	....	0	0	....	....	....	....	Clear.
2...		24. 699	59	43	24. 660	43	41	83. 3	S. W.	10	.50	....	Stratus ...	1-4	0	0	....	....	....	....	Clear.
3...		26. 235	67. 5	49	26. 156	49	41	43. 9	S. E.	2	.02	...	0	0	Cumulus..	1-4	S. W.	....	....	....	Clear.
4...		27. 428	63	54	27. 333	54. 5	48	61. 3	0	0	0	....	Stratus ...	1-8	0	0	....	....	....	....	Clear.
Station 1...	9 0	24. 045	68	39	23. 965	39	37	81	W.	18	1. 62	....	Stratus ...	1-8	0	0	....	....	....	....	Clear, (auroral arch.)
2...		24. 690	55	42	24. 660	42	39	74. 4	S. W.	14	.98	....	Stratus ...	1-4	0	0	....	....	....	....	Clear.
3...		26. 230	68. 5	48	26. 148	48	44	70. 4	S. W.	4	.08	....	0	0	Cumulus..	1-4	S. W.	....	....	....	Clear.
4...		27. 431	68	53	27. 324	54	47. 5	58. 3	S.	4	.08	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	10 0	24. 038	65	38	23. 965	38	36	80	N. W.	14	.98	....	0	0	0	0	....	....	....	....	Clear.
2...		24. 709	65	41	24. 656	41	39	82. 4	S. W.	17	1. 44	....	Stratus ...	1-4	0	0	....	....	....	....	Clear.
3...		26. 215	64	46	26. 144	46	43	76. 7	0	0	0	....	0	0	0	0	....	....	....	....	Clear.
4...		27. 440	66	49	27. 338	49	46	78. 1	S. W.	2	.02	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	11 22	24. 028	64	38	23. 957	38	36	80	N. W.	20	2. 00	....	0	0	0	0	....	....	....	....	Clear.
2...		24. 678	55	40. 5	24. 648	40	38. 5	86. 4	S. W.	18	1. 62	....	0	0	0	0	....	....	....	....	Clear.
3...		26. 205	67	45	26. 127	45	42. 5	79. 8	S. E.	4	.08	...	0	0	0	0	....	....	....	....	Clear.
4...		27. 410	61	46	27. 320	46	44	84. 3	S.	4	.08	....	0	0	0	0	....	....	....	....	Clear.

Meteorological record for June 13, 1873—Continued.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		
Station 1...	12 0 mid-night.	24.017	64	38	23.946	38	36	80	N. W.	12	.72	...	0	0	0	0	......	......	......	......	Clear.
2...		24.670	56	39	24.638	39	37.5	80.2	S. E.	13	.84	260	0	0	0	0	......	......	......	......	Clear.
3...		26.198	64.5	44	26.120	44	42	83.6	S. E.	10	.50	117	0	0	0	0	......	......	......	......	Clear.
4...		27.398	61	45	27.307	45	44	92.0	S.	4	.08	....	0	0	0	0	......	......	......	......	Clear.

Meteorological record for June 14, 1873.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		
Station 1...	*a. m.* 1 0	24.025	65	36	23.952	36	35	90	N. W.	8	.32	....	0	0	0	0	......	......	......	......	Clear.
2...		24.660	57	38.5	24.625	38.5	37	86.0	S. E.	12	.72	....	Stratus...	1-4	0	0	......	......	......	......	Fair.
2...		26.174	62	44	26.107	44	41	75.6	E.	5	.12	....	Stratus...	1-4	0	0	......	......	......	......	Clear.
4...		27.308	58	48	27.315	49	44	63.8	S.	3	.04	....	0	0	0	0	......	......	......	......	Clear.
Station 1...	2 0	24.030	73	36	23.940	36	34	80	0	0	0	....	0	0	Cumulus..	1-8	......	......	......	......	Fair.
2...		24.658	55	37	24.628	37	35.5	85.4	S. E.	1	.01	....	Stratus...	1-4	0	0	......	......	......	......	Fair.
3...		26.167	60	44	26.105	44	42	83.6	E.	5	.12	....	Stratus...	1-4	0	0	......	......	......	......	Clear.
4...		27.302	58	43.5	27.300	44.5	42	79.8	S. W.	2	.02	....	0	0	0	0	......	......	......	......	Clear.
Station 1...	3 0	24.040	79	36	23.937	36	34	80	0	0	0	....	Cumulus..	1-8	0	0	......	......	......	......	Fair.
2...		24.670	64	36.5	24.620	36.5	36	95.0	S. E.	11	.60	....	Stratus...	1-4	0	0	......	......	......	......	Fair.
3...		26.160	60	43	26.098	43	41.5	79.4	0	0	0	....	0	0	0	0	......	......	......	......	Clear.
4...		27.375	53	43	27.297	44	42	83.6	W.	3	.04	....	0	0	0	0	......	......	......	......	Clear.
Station 1...	4 0	24.035	80	36	23.930	36	32	61	0	0	0	....	Stratus...	1-4	0	0	......	......	......	......	Fair.
2...		24.668	71	38	24.602	37.5	35.5	80.9	S. E.	2	.02	...	Stratus...	1-4	0	0	......	......	......	......	Fair.
3...		26.157	58.5	43	26.098	43	41.5	79.4	S. E.	2	.02	....	0	0	Cumulus..	1-4	S.	......	......	......	Clear.
4...		27.360	54	42.5	27.287	43.5	41.5	83.4	N.	3	.04	....	0	0	0	0	......	......	......	......	Clear.
Station 1...	5 0	24.025	77	36	23.926	36	33	70	N. W.	4	.08	....	Stratus...	1-4	0	0	......	......	......	......	Fair.
2...		24.650	65	38	24.597	37.5	36	85.6	S. E.	13	.84	....	Stratus...	1-4	0	0	......	......	......	......	Fair.
3...		26.141	57	43	26.086	43	41.5	79.4	S. E.	2	.02	....	0	0	Cumulus..	1-4	S.	......	......	......	Fair.
4...		......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	
Station 1...	6 0	24.015	73	36	23.925	36	33	70	W.	10	.50	....	Stratus...	4-4	Hidden.....		......	......	......	......	Fair.
2...		24.640	59	41	24.601	40	36.5	68.8	S. E.	19	1.80	....	Stratus...	1-4	0	0	......	......	......	......	Fair.
3...		26.133	56	44.5	26.080	44.5	42	79.8	N. W.	4	.08	....	0	0	Cumulus..	2-4	......	......	......	......	Fair.
4...		27.364	56	45.5	27.286	46.5	44	80.7	N.	3	.04	....	0	0	Cumulus.	2-4	S.	......	......	......	Fair.
Station 1...	7 0	24.100	72	36	24.012	36	33	90	W.	10	.50	....	Stratus...	4-4	Hidden....	....	......	......	......	......	Cloudy.
2...		24.648	59	41	24.609	41.5	38.5	74.1	S. E.	20	2.00	....	Stratus...	1-4	Cirrus	1-4	S.	......	......	......	Fair.
3...		26.140	56.5	46.5	26.086	46.5	43.5	76.7	W.	4	.08	....	0	0	Cumulus..	1-4	S.	......	......	......	Fair.
4...		27.368	55.5	49	27.292	50	45.5	68.0	N.	2	.02	....	0	0	Cumulus..	2-4	S. W.	......	......	......	Fair.

Station 1	7 57	23.995	68	37	23.915	37	34	71	0	0	0		Hazy		0	0					Clear.
2		24.640	57	44	24.605	43.5	42	87.5	S. E.	19	1.80		Stratus	1-4	Cirrus	1-4					Fair.
3		26.142	58	49	26.084	49	44	63.8	W.	2	.02		0	0	0	0					Fair.
4		27.370	56.5	48.5	27.291	49	47	85.3	N. W.	8	.32		0	0	Cirrus	1-4					Clear.
Station 1	9 0	23.990	68	40	23.910	40	35	56	0	0	0		Hazy		0	0					Clear.
2		24.638	58	46	24.601	45	38	45.9	S. W.	12	.72		Stratus	1-4	Cirrus	1-4	S. W.				Fair.
3		26.131	58	52	26.072	52	44	47.2	W.	6	.18		Hazy		0	0					Clear.
4		27.356	58	57	27.273	58	47.5	39.5	N. W.	4	.08		0	0	0	0					Clear.
Station 1	10 0	23.995	69	40	23.915	40	35	56	0	0	0		Hazy		Cirro-strat.	1-4					Fair.
2		24.630	57	48.5	24.595	48	38	20.2	S.	16	1.28		Stratus	1-4	Cirrus	1-4	S. W.				Fair.
3		26.130	57.5	54	26.074	54	44	37.6	S.	8	.32		0	0	Cirrus	1-4	S.				Clear.
4		27.359	58	58	27.276	58	46	31.8	N. W.	6	.18		0	0	Cirrus	1-8	W.				Clear.
Station 1	11 0	24.000	67	43	23.922	43	37	51	0	0	0		Hazy		Cirro-strat.	1-4					Fair.
2		24.635	59	50	24.596	49	39	30.7	S.	8	.32		Stratus	1-4	Cirrus	1-4	S. W.				Fair.
3		26.128	56.5	56	26.074	56	45.5	36.7	W.	7	.24		0	0	0	0					Clear.
4		27.359	59	60	27.274	60	48	34.2	W.	4	.08		0	0	Cirrus	1-8	W.				Clear.
Station 1	12 m.	23.975	65	44	23.902	44	38	52	N. E.	2	.02		Hazy		Cirro-strat.	1-4					Fair.
2		24.635	62	54	24.589	53.5	43.5	36.9	S. E.	2	.02		Stratus	1-4	Cirrus	1-4					Fair.
3		26.120	57	57	26.065	57	47	41.1	N. E.	6	.18		0	0	Cirrus	1-4					Clear.
4		27.341	62	61	27.240	61	49	35.3	N. W.	6	.18	100	0	0	Cirrus	1-8	W.				Clear.
	p. m.																				
Station 1	1 0	23.970	65	43	23.897	43	37	51	S.	4	.08		Hazy		Cirrus	1-4					Fair.
2		24.632	65	53.5	24.579	53	42.5	33.0	E.	6	.18		0	0	Cirrus	1-4					Fair.
3		26.105	61	60	26.041	60	49	39.2	S. W.	6	.18		0	0	0	0					Clear.
4		27.332	62	64	27.240	64	50.5	31.7	S. E.	6	.18		0	0	0	0					Clear.
Station 1	2 0	23.955	64	44	23.884	44	37	45	0	0	0		Hazy		0	0					Fair.
2		24.615	65	53.5	24.563	52	43	41.1	E.	6	.18		Hazy		Cirrus	1-4					Fair.
3		26.095	64	62	26.024	62	50	36.4	S.	6	.18		0	0	0	0					Clear.
4		27.314	65.5	62	27.213	62	52	46.1	S. E.	6	.18		0	0	Cirrus	1-4					Clear.
Station 1	3 0	23.950	63	43	23.881	43	39	66	S.	1	.01		Hazy		0	0					Fair.
2		24.615	65	52	24.561	51	42.5	43.0	E.	4	.08		Hazy		Cirrus	1-4					Fair.
3		26.085	64	62	26.014	62	50	36.4	S. E.	7	.24		0	0	Cirrus	1-4					Clear.
4		27.319	68	61.5	27.212	62	51	41.2	N. W.	6	.18		0	0	Cirrus	1-4	N. W.				Fair.
Station 1	4 0	23.940	64	43	23.869	43	38	58	0	0	0		Hazy		Cirrus	1-4					Fair.
2		24.613	67	50	24.557	49	43	57.2	E.	8	.32		Hazy		Cirrus	1-4					Fair.
3		26.085	63.5	61	26.015	61	50	40.2	S. E.	8	.32		0	0	Cirrus	1-4					Clear.
4		27.311	71	61	27.197	62	51	41.2	N. W.	6	.18		0	0	Cirrus	1-4	N. W.				Fair.
Station 1	4 57	23.930	62	44	23.863	44	37	45	0	0	0		Hazy		Cirrus	1-4	W.				Fair.
2		24.600	66	47.5	24.540	47	41.5	59.0	E.	6	.18		Hazy		Cirrus	2-4					Fair.
3		26.060	62.5	59	25.992	59	49	43.2	S. E.	5	.12		0	0	Cirrus	3-4	S.				Fair.
4		27.295	71	58	27.081	58.5	49	45.3	S. W.	8	.32		0	0	Cirrus	3-4	N. W.				Fair.
Station 1	6 0	23.932	65	41	23.859	41	31	18	S.	4	.08		Hazy		Cirro-cum.	2-4	W.				Fair.
2		24.588	67	45	24.532	44.5	40	64.1	E.	4	.08		Hazy		Cirrus	3-4					Fair.
3		26.070	67	54.5	25.992	54.5	43.5	32.0	S. E.	5	.12		0	0	Cirrus	3-4	S.				Fair.
4		27.270	68	57	27.163	57	46	35.8	S. W.	4	.08		0	0	Cirrus	3-4					Fair.
Station 1	7 0	23.930	66	40	23.855	40	30	18	S.	4	.08		Hazy		Cirro-cum.	2-4	W.				Fair.
2		24.585	66	47.5	24.531	47	36.5	24.3	S. W.	2	.02		Hazy		Cirrus	2-4	S. W.				Fair.
3		26.070	66	50	25.994	50	43	51.5	0	0	0		0	0	Cirrus	3-4	S. W.				Fair.
4		27.268	63	51	27.173	51	45	59.0	0	0	0		0	0	Cirrus	3-4	W.				Fair.

Meteorological record for June 14, 1873—Continued.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'd.	Ended.		
Station 1...	*p. m.* 8 0	23. 930	64	39	23. 859	39	30	26	S. E.	2	. 02	....	Cumulus..	1-4	Cirrus	2-4	W.	....	....	....	Fair.
2...		24. 575	59	44	24. 536	43. 5	33	18. 3	S. E.	23	2. 64	....	Stratus ...	1-4	Cirrus	1-4	S. W.	....	....	....	Fair.
3...		26. 072	63	46	26. 013	46	40	54. 3	0	0	0	....	0	0	Cirrus	3-4	....	....	....	....	Fair.
4...		27. 250	50	44. 5	27. 166	45	42	76. 2	0	0	0	....	Stratus ...	1-4	Cirrus	1-4	....	....	....	....	Fair.
Station 1...	9 0	23. 931	68	38	23. 856	38	29	24	S. E.	6	. 18	....	Stratus ...	1-4	Cirrus	2-4	W.	....	....	....	Fair.
2...		24. 565	59	42. 5	24. 526	42	32	19. 2	S. E.	26	3. 38	....	Stratus ...	1-4	Cirrus	1-4	....	....	....	....	Fair.
3...		26. 070	62. 5	46	26. 002	46	38	40. 0	0	0	0	....	0	0	Cirrus	3-4	S. W.	....	....	....	Fair.
4...		27. 265	62	45	27. 174	45. 5	42	72. 6	N.	2	. 02	....	Stratus ...	1-8	0	0	....	....	....	....	Clear.
Station 1...	10 0	23. 930	66	39	23. 855	39	29	17	S. E.	8	. 32	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
2...		24. 565	65	44. 5	24. 513	44	32	8. 8	S. E.	16	1. 28	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
3..		26. 045	58	47	25. 987	47	37	27. 6	0	0	0	....	0	0	Cirrus	3 4	S. W.	....	....	....	Fair.
4..		27. 253	61	44	27. 165	45	41	68. 4	0	0	0	....	Stratus ...	1-8	0	0	....	....	....	....	Clear.
Station 1...	11 22	23. 900	66	41	23. 825	41	36	56	S. E.	2	. 02	....	Stratus ...	1-1	Cumulus..	1 4	....	....	....	....	Fair.
2...		24. 555	66	45	24. 501	45	40	60. 7	S. W.	10	. 50	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
3..		26. 025	58	46	25. 967	46	39	47. 1	S. W.	5	. 12	....	0	0	Cirrus	1-4	S. W.	....	....	....	Clear.
4...		27. 238	59	44	27. 152	44	41	75. 6	N.	2	. 02	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
Station 1..	12 0 mid- night.	23. 900	60	41	23. 818	41	37	65	S. E.	4	. 08	...	Stratus ...	1-4	Cumulus..	1-4	....	....	....	....	Fair.
2...		24. 545	65	45. 5	24. 493	45	41	68. 4	S. W.	10	. 50	230	Stratus ...	1-4	0	0	....	....	....	....	Fair.
3..		26. 030	61	46	25. 966	46	40	54. 3	S. W.	10	. 50	108	0	0	Cirrus	1-4	S. W.	....	....	....	Clear.
4...		27. 230	60	43	27. 144	43. 5	40	71. 3	N.	2	. 02	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.

Meteorological record for June 15, 1873.

Place of observation.	Time of observation.	Barometer.	Attached.	Exposed.	Corrected barometer.	Dry bulb.	Wet bulb.	Relative humidity.	Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'd.	Ended.	Amount of rain or melted snow.	Remarks.
Station 1...	*a. m.* 1 0	24. 000	73	41	23. 910	41	38	73	S.	8	. 32	....	Cumulus..	2-4	0	0	....	....	....	....	Fair.
2..		24. 550	69	44. 5	24. 488	44	41. 5	79. 6	S. W.	8	. 32	...	Stratus ...	2-4	0	0	....	....	....	....	Fair.
3..		26. 028	63. 5	46. 5	25. 948	46. 5	40	51. 3	E.	1	. 00	....	Stratus ...	2-4	0	0	....	....	....	....	Fair.
4...		27. 240	58. 5	42	27. 158	43	39. 5	70. 9	N.	3	. 04	....	Stratus ...	1-4	Cirrus	1-4	N.	....	....	....	Fair.
Station 1..	2 0	23. 995	73	41	23. 905	41	34	41	0	0	0	....	Cumulus..	2-4	Cumulus..	3-4	....	....	....	....	Cloudy.
2..		24. 550	68	46	24. 492	45. 5	42	79. 8	S. W.	4	. 08	....	Stratus ..	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3..		25. 999	62. 5	48	25. 931	48	44	70. 4	E	1	. 01	...	Stratus ...	2-4	0	0	....	....	....	....	Fair.
4..		27. 222	58	45	27. 141	46	42	49. 1	N. W.	2	. 02	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
Station 1...	3 0	23. 890	73	41	23. 800	41	34	41	0	0	0	....	Cumulus..	2 4	Cumulus..	3-4	....	....	....	....	Cloudy.
2..		24. 548	74	43	24. 477	43	41. 5	87. 4	S. W.	2	. 02	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		25. 981	61. 5	48	25. 916	48	44	70. 4	0	0	0	....	Stratus ...	3-4	Hidden ...	....	....	....	....	....	Cloudy.
4		27. 198	57	44. 5	27. 119	45	42. 5	[illegible]	N.	2	. 02	....	Stratus	2-4	0	0	....	....	....	....	Fair.

Station 1...	4 0	23.880	73	41	23.790	41	34	41	0	0	0	....	Stratus ...	4-4	Hidden ...	0	......	......	......	......	Cloudy.
2...		24.539	70	43	24.476	43	41.5	87.4	S.W.	8	.32	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
3...		25.995	62	48	25.928	48	45	77.7	0	0	0	....	Stratus ...	3-4	Hidden ...	....	......	......	......	......	Cloudy.
4...		27.198	56.5	46	27.121	46.5	44.5	84.3	W.	2	.02	....	Stratus ...	2-4	0	0	......	......	......	......	Fair.
Station 1...	5 0	23.885	67	40	23.807	40	35	56	0	0	0	....	Stratus ...	3-4	Hidden ...	....	......	......	......	......	Cloudy.
2...		24.550	68	43	24.492	43	40	75.0	W.	5	.12	....	Stratus ...	2-4	Cirrus	1-4	......	......	......	......	Fair.
3...		25.991	62	48	25.924	48	45	77.7	0	0	0	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
4...		27.200	56	46.5	27.124	47.5	45	81.1	W.	2	.02	....	Stratus ...	1-4	Cirrus	1-4	W.	......	......	......	Fair.
Station 1...	6 0	23.875	67	39	23.797	39	37	85	N.W.	8	.32	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
2...		24.530	61	43.5	24.487	42.5	41	87.3	W.	5	.12	....	Stratus ...	2-4	Cirrus	2-4	W.	......	......	......	Cloudy.
3...		25.992	59.5	49	25.931	49	45.5	74.3	0	0	0	....	Stratus ...	2-4	Cumulus..	1-4	......	......	......	......	Fair.
4...		27.200	56	50	27.124	51	47.5	75.5	S.W.	1	.01	....	Stratus ...	2-4	Cirrus	1-4	W.	......	......	......	Cloudy.
Station 1...	7 0	23.885	68	40	23.805	40	35	56	N.W.	2	.02	....	Stratus ...	2-4	Cirrus	2-4	......	......	......	......	Cloudy.
2...		24.539	69	44.5	24.478	43.5	42.5	91.6	W.	6	.18	....	Stratus ...	2-4	Cirrus	1-4	W.	......	......	......	Fair.
3...		25.992	60.5	49.5	25.925	49.5	46.5	78.1	0	0	0	....	Stratus ...	1-4	Cirrus	3-4	S.W.	......	......	......	Cloudy.
4...		27.200	55.5	53	27.125	54	50	73.8	S.W.	1	.01	....	Stratus ...	1-4	Cirrus	3-4	W.	......	......	......	Cloudy.
Station 1...	7 57	23.870	65	43	23.797	43	35	35	N.W.	8	.32	....	Stratus ...	1-4	Cirrus	2-4	W.	......	......	......	Fair.
2...		24.528	65	48.5	24.476	47	46	92.3	W.	7	.24	....	Stratus ...	1-4	Cirrus	2-4	W.	......	......	......	Fair.
3...		26.000	64.5	52.5	25.928	52.5	48	69.6	N.W.	2	.02	....	0	0	Cirrus	3-4	S.W.	......	......	......	Fair.
4...		27.200	58	57	27.119	57	51	63.4	N.W.	2	.02	....	Stratus ...	1-4	Cirrus	3-4	W.	......	......	......	Cloudy.
Station 1...	9 0	23.855	63	46	23.786	46	39	47	N.W.	3	.04	....	Cumulus..	1-4	Cirrus	2-4	W.	......	......	......	Fair.
2...		24.519	59	48.5	24.480	47.5	45	81.1	W.	5	.12	....	Stratus ...	3-4	0	0	......	......	......	......	Fair.
3...		25.995	63.5	53	25.925	53	49	73.3	W.	2	.02	....	0	0	Cumulus..	2-4	N.E.	......	......	......	Fair.
4...		27.208	63	58.5	27.115	59	53	64.7	N.W.	4	.08	....	Stratus ...	1-4	Cirrus	1-4	W.	......	......	......	Fair.
Station 1...	10 0	23.848	60	47	23.785	47	41	55	0	0	0	....	Cumulus..	1-4	Cirrus	1-4	......	......	......	......	Fair.
2...		24.510	58	50	24.473	49.5	45	67.6	W.	7	.24	....	Stratus ...	2-4	0	0	......	......	......	......	Fair.
3...		25.988	64	57	25.917	57	51	63.4	S.W.	4	.08	....	0	0	Cumulus..	1-4	......	......	......	......	Fair.
4...		27.198	63.5	60	27.104	61	53	55.3	N.W.	2	.02	....	Stratus ...	1-4	0	0	......	......	......	......	Fair.
Station 1...	11 0	23.845	60	49	23.782	49	42	50	S.W.	1	.01	....	0	0	Cirro-cum.	2-4	S.W.	......	......	......	Fair.
2...		24.490	64	52	24.440	51	42.5	43.0	W.	7	.24	....	Stratus ...	1-4	Cirrus	1-4	W.	......	......	......	Fair.
3...		25.980	63.5	57	25.910	57	48	46.5	0	0	0	....	0	0	Cirrus	1-4	......	......	......	......	Fair.
4...		27.102	67	63	27.089	63.5	52	40.3	W.	4	.08	....	0	0	Cirrus	2-4	W.	......	......	......	Fair.
Station 1...	12 m	23.842	61	52	23.777	52	43	40	N.W.	8	.32	....	0	0	Cirro-cum.	2-4	N.W.	......	......	......	Fair.
2...		24.520	72	56	24.453	55	45.5	41.6	W.	12	.72	....	Stratus ...	1-4	Cirrus	1-4	W.	......	......	......	Fair.
3...		25.975	63	61.5	25.906	61.5	49.5	35.3	N.W.	7	.24	....	0	0	Cumulus..	1-4	......	......	......	......	Clear.
4...		27.182	67	67	27.079	67	53	32.9	N.W.	4	.08	67	Stratus ...	1-8	0	0	......	......	......	......	Clear.
Station 1...	p. m. 1 0	23.842	62	52	23.775	52	43	40	N.W.	12	.72	....	0	0	Cirro-cum.	2-4	N.W.	......	......	......	Fair.
2...		24.508	68	52.5	24.451	52	46.5	62.9	N.W.	13	.84	....	Stratus ...	1-4	Cirrus	1-4	W.	......	......	......	Fair.
3...		25.965	63	64	25.896	64	52	38.5	W.	7	.24	....	Stratus ...	1-4	0	0	......	......	......	......	Clear.
4...		27.178	71	69	27.066	69	54	30.9	N.W.	8	.32	....	Stratus ...	1-8	0	0	......	......	......	......	Clear.
Station 1...	2 0	23.850	62	52	23.783	52	44	47	N.W.	15	1.12	....	Cumulus..	1-4	Cirrus	2-4	N.W.	......	......	......	Fair.
2...		24.500	63	58.5	24.452	58	48	42.1	N.W.	15	1.12	....	Stratus ...	2-4	Cirrus	1-4	W.	......	......	......	Fair.
3...		25.970	65	63.5	25.896	63.5	52.5	42.2	W.	7	.24	....	Stratus ...	3-4	0	0	......	......	......	......	Fair.
4...		27.180	71	70	27.068	70	57	40.0	W.	8	.32	....	Stratus ...	2-4	Cirrus	1-4	N.W.	......	......	......	Cloudy.
Station 1...	3 0	23.838	64	50	23.767	50	44	58	N.W.	14	.98	....	Hazy	....	Cumulus..	3-4	N.W.	......	......	......	Fair.
2...		24.490	61	54.5	24.447	54	47	55.2	N.W.	14	.98	....	Stratus ...	2-4	Cirrus	1-4	N.W.	......	......	......	Fair.
3...		25.965	62.5	60	25.897	60	52	54.6	W.	4	.08	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
4...		27.178	70	66	27.068	66	56	49.5	N.W.	6	.18	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Station 1...	4 0	23.835	63	49	23.766	49	48	93	N.W.	12	.72	....	Hazy	....	Cumulus..	3-4	N.W.	......	......	......	Fair.
2...		24.485	58	52	24.448	52	46	59.8	N.W.	14	.98	....	Stratus ...	2-4	Cirrus	1-4	N.W.	......	......	......	Fair.
3...		25.965	63	59	25.896	59	51	53.7	W.	2	.02	....	Stratus ...	3-4	Cumulus..	1-4	W.	......	......	......	Cloudy.
4...		27.178	70	65	27.068	65.5	55	46.8	N.W.	6	.18	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.

Meteorological record for June 15, 1873.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.		
Station 1...	p. m. 4 57	23.832	62	47	23.765	47	43	69	N. W.	8	.32	....	Hazy	....	Stratus ...	3-4	N. W.	....	....	....	Fair.
2...		24.475	58	50.5	24.438	50.5	47	75.3	W.	17	1.44	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3 ..		25.968	61.5	58	25.903	58	52	64.1	W.	4	.08	....	Stratus ...	3-4	Cumulus..	1-4	W.	....	....	....	Cloudy.
4...		27.175	60	64	27.067	64	55	52.7	N. W.	1	.01	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Station 1...	6 0	23.829	61	47	23.764	47	45	85	N. W.	23	2.64	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
2...		24.485	63	51	24.437	51	47.5	75.6	N. W.	19	1.80	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		25.960	63	58	25.891	58	53	69.8	W.	2	.02	....	Stratus ...	2-4	Cumulus..	1-4	W.	....	....	....	Fair.
4...		27.160	70	66.5	27.050	67.5	57.5	50.3	N. W.	1	.01	....	0	0	Cumulus..	3-4	N. W.	....	....	....	Cloudy.
Station 1...	7 0	23.802	61	46	23.738	46	44	85	N. W.	36	6.48	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Threatening.
2...		24.480	61	50.5	24.437	50.5	48	82.2	N. W.	22	2.42	....	Stratus ...	3-4	0	0	....	....	....	....	Fair.
3...		25.970	66.5	57	25.893	57	52.5	71.9	N. W.	4	.08	....	Stratus ...	2-4	Cumulus..	1-4	W.	....	....	....	Fair.
4...		27.172	68.5	63	27.067	63	57	67.0	N. W.	1	.01	....	Stratus ...	1-4	Cumulus..	1-4	N. W	....	....	....	Fair.
Station 1...	8 0	23.802	63	46	23.731	46	44	85	N. W.	40	8.00	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Threatening.
2...		24.483	60	49	24.442	49	47	85.3	W.	14	.98	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		25.972	70	55	25.887	55	51	74.3	0	0	0	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
4...		27.150	65.5	56	27.051	56	53	80.9	N.	2	.02	....	Stratus ...	1-4	Cumulus..	1-4	N. W	....	....	....	Fair.
Station 1...	9 0	23.804	72	46	23.729	46	45	92	N. W.	36	6.48	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Threatening.
2...		24.490	59	49	24.451	48.5	48	96.2	W.	15	1.12	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3 ..		25.980	67.5	54.5	25.901	54.5	50.5	73.8	0	0	0	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
4...		27.170	65	55	27.072	55	52	80.5	N.	4	.08	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
Station 1...	10 0	23.840	72	46	23.752	46	45	92	N. W.	38	7.22	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Threatening.
2...		24.501	68	49	24.461	49	48.5	96.3	W.	16	1.28	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		25.980	67	54.5	25.902	54.5	52	83.6	N. W.	1	.01	....	0	0	Cumulus..	1-4	N. W.	....	....	....	Fair.
4...		27.152	64.5	55	27.055	55.5	52.5	80.7	N. W.	4	.08	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
Station 1...	11 22	23.820	65	46	23.747	46	46	100	N. W.	36	6.48	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Threatening.
2..		24.505	70	49.5	24.442	49.5	49	96.3	W.	19	1.80	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3..		25.972	68	54.5	25.891	54.5	52	83.6	N. W.	5	.12	....	Stratus ...	3-4	Hidden ...	....	....	....	....	....	Cloudy.
4..		27.150	63	53	27.057	54	51.5	83.4	N.	4	.08	....	Stratus ...	2-4	0	0	....	....	....	....	Fair.
Station 1...	12 0 mid- night.	23.800	64	46	23.729	46	45	92	N. W.	36	6.48	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Threatening.
2...		24.498	68	49.5	24.440	49.5	49	96.3	W.	13	.84	273	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3..		25.972	66.5	54.5	25.895	54.5	53	89.9	0	0	0	43	Stratus ...	3-4	Hidden ...	....	....	....	....	....	Cloudy.
4...		27.145	62	54	27.054	55	52.5	83.7	N.	4	.08	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.

Meteorological record for June 16, 1873.

	a. m.																				
Station 1	1 0	23.820	61	47	23.755	47	47	100	N. W.	24	2.88	...	Stratus	4-4	Hidden	...	...	...	...	...	Threatening.
2		24.490	65	50	24.438	50	49.5	96.3	W.	24	2.88	...	Stratus	4-4	Hidden	...	...	...	...	...	Cloudy.
3		25.968	65	55	25.894	55	54	93.4	W.	2	.02	...	Stratus	4-4	Hidden	...	...	...	...	...	Cloudy.
4		27.138	64	57	27.042	57.5	54	78.4	N.	2	.02	...	Stratus	4-4	Hidden	...	...	...	...	...	Cloudy.
Station 1	2 0	23.840	60	48	23.777	48	48	100	N. W.	20	2.00	...	Stratus	4-4	Hidden	...	...	...	...	...	Threatening.
2		24.510	71	50.5	24.445	50.5	50.5	100	W.	19	1.80	...	Stratus	4-4	Hidden	...	...	...	...	...	Cloudy.
3		25.963	66	56	25.887	56	55	93.5	W.	5	.12	...	Stratus	4-4	Hidden	...	...	...	...	...	Cloudy.
4		27.130	65	57	27.032	57	55	87.4	N. W.	2	.02	...	Stratus	4-4	Hidden	...	...	...	...	...	Cloudy.
Station 1	3 0	23.835	59	48	23.775	48	48	100	N. W.	18	1.62	...	Stratus	4-4	Hidden	...	...	...	...	...	Threatening.
2		24.497	69	50	24.436	50	50	100	W.	19	1.80	...	Stratus	4-4	Hidden	...	...	...	...	...	Cloudy.
3		25.962	64.5	56	25.890	56	55	93.5	W.	1	.01	...	Stratus	4-4	Hidden	...	...	...	...	...	Cloudy.
4		27.148	67	57	27.045	57.5	55.5	87.5	0	0	0	...	Stratus	4-4	Hidden	...	...	...	...	...	Cloudy.
Station 1	4 0	23.840	59	48	23.780	48	48	100	N. W.	12	.72	...	Stratus	4-4	Hidden	...	...	...	...	...	Threatening.
2		24.500	67	50.5	24.444	50.5	50.5	100	W.	20	2.10	...	Stratus	4-4	Hidden	...	...	...	...	...	Cloudy.
3		25.972	68	56.5	25,891	56.5	55	90.4	W.	2	.02	...	Stratus	4-4	Hidden	...	...	...	...	...	Cloudy.
4		27.145	66	57.5	27.045	58	56	87.6	N.	2	.02	...	Stratus	4-4	Hidden	...	...	...	...	...	Cloudy.
Station 1	5 0	23.840	59	48	23.782	48	48	100	N. W.	10	.50	...	Stratus	4-4	Hidden	...	...	...	...	...	Threatening.
2		24.501	70	50	24.438	50	50	100	W.	18	1.62	...	Stratus	4-4	Hidden	...	...	...	...	...	Cloudy.
3		25.971	66	56	25.895	56	55	93.5	N. W.	1	.01	...	Stratus	4-4	Hidden	...	...	...	...	...	Cloudy.
4		27.155	65	58	27.057	58	56	87.6	0	0	0	...	Stratus	4-4	Hidden	...	...	...	...	...	Cloudy.
Station 1	6 0	23.835	57	47	23.777	47	47	100	N. W.	18	1.62	...	Stratus	4-4	Hidden	...	...	...	...	...	Threatening.
2		24.490	67	50.5	24.431	50.5	50.5	100	W.	22	2.42	...	Stratus	4-4	Hidden	...	...	...	...	...	Cloudy.
3		25.980	66.5	56	25.903	56	55	93.5	W.	1	.01	...	Stratus	4-4	Hidden	...	...	...	...	...	Cloudy.
4		27.165	64	58.5	27.069	59	56	81.9	N.	2	.02	...	Stratus	3-4	0	0	...	...	...	...	Cloudy.
Station 1	7 0	23.839	57	47	23.783	47	47	100	N. W.	14	.98	...	Stratus	4-4	Hidden	...	...	...	...	...	Clearing up.
2		24.520	66	50	24.466	50	50	100	N. W.	13	.84	...	Stratus	4-4	Hidden	...	...	...	...	...	Cloudy.
3		25.990	67	56.5	25.912	56.5	55	90.4	W.	1	.01	...	Stratus	2-4	Cumulus	1-4	W.	...	...	...	Fair.
4		27.176	64	60	27.080	60	57	82.2	0	0	0	...	Stratus	2-4	Cirrus	1-4	...	...	...	...	Fair.
Station 1	7 57	23.860	57	49	23.804	49	47	85	N. W.	12	.72	...	Cumulus	1-4	Hazy	...	...	...	...	...	Fair.
2		24.522	61	52.5	24.485	52	51	93.0	W.	6	.18	...	Stratus	1-4	0	0	...	...	...	...	Fair.
3		25.995	67	58	25.917	58	55	81.6	W.	2	.02	...	Stratus	1-4	Cumulus	1-4	W.	...	...	...	Fair.
4		27.176	66	65	27.076	64.5	59	72.7	0	0	0	...	Hazy	...	Cirrus	1-4	...	...	...	...	Fair.
Station 1	9 0	23.865	56	50	23.811	50	47	78	N. W.	8	.32	...	Cumulus	1-4	0	0	...	...	...	...	Fair.
2		24.500	59	54	24.461	53.5	51	89.7	W.	5	.12	...	Stratus	2-4	0	0	...	...	...	...	Fair.
3		25.985	66	60	25.909	60	56	76.5	W.	2	.02	...	Smoky	...	Cumulus	1-4	W.	...	...	...	Fair.
4		27.179	68	66	27.074	66	58	58.8	0	0	0	...	Hazy	...	Cumulus	1-4	N.	...	...	...	Fair.
Station 1	10 0	23.870	60	54	23.807	54	51	79	N. W.	2	.02	...	Cumulus	1-4	0	0	...	...	...	...	Clear.
2		24.500	59	57	24.461	55.5	53.5	87.0	W.	7	.24	...	Stratus	2-4	Cumulus	1-4	...	...	...	...	Fair.
3		25.975	66.5	62	25.898	62	56	66.5	W.	1	.01	...	Smoky	...	Cumulus	1-4	W.	...	...	...	Fair.
4		27.163	68	67	27.058	66.5	58.5	59.1	0	0	0	...	Hazy	...	Cumulus	1-4	N. W.	...	...	...	Fair.
Station 1	11 0	28.865	60	55	23.822	55	51	73	N. W.	4	.08	...	Hazy	...	Cumulus	2-4	N. W.	...	...	...	Fair.
2		24.510	60	57.5	24.469	57.5	57	86.8	W.	12	.72	...	Stratus	1-4	Cumulus	1-4	N. W.	...	...	...	Hazy.
3		25.982	68	65	25.901	65	57	58.2	S. W.	6	.18	...	Smoky	...	Cumulus	1-4	W.	...	...	...	Fair.
4		27.173	70	70	27.063	70	59	48.2	N. W.	4	.08	...	Hazy	...	Cumulus	1-4	N. W.	...	...	...	Fair.
Station 1	2 m.	23.870	60	55	23.812	55	51	73	0	0	0	...	Hazy	...	Cumulus	1-4	N. W.	...	...	...	Fair.
2		24.527	67	60	24.471	59.5	58	90.9	W.	18	1.62	.	Stratus	1-4	Cumulus	1-4	N. W.	...	...	...	Hazy.
3		25.988	69	66	25.905	66	57	54.3	S. W.	6	.18	...	Smoky	...	Cumulus	1-4	W.	...	...	...	Fair.
4		27.170	73	72	27.053	72.5	60	45.7	N. W.	6	.18	...	Hazy	...	Cumulus	1-4	N. W.	...	...	...	Fair.

Meteorological record for June 16, 1873—Continued.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'en'd.	Ended.		
Station 1...	p. m. 1 0	23.875	61	56	23.810	56	50	62	N. W.	8	.32	....	Hazy	....	Cumulus..	1-4	N. W.	....	....	....	Fair.
2..		24.515	72	62.5	24.418	62	54	56.1	N. W.	18	1.62	....	Hazy	....	Cir. & cum.	1-4	N. W.	....	....	....	Fair.
3...		25.980	68.5	69	25.898	69	59	51.8	N. W.	7	.24	...	Smoky....	....	Cumulus..	1-4	N. W.	....	....	....	Clear.
4...		27.165	74.5	75	27.044	75.5	60	36.7	N. W.	8	.32	....	Hazy	....	Cumulus..	1-4	N. W.	....	....	....	Fair.
Station 1..	2 0	23.820	61	54	23.755	54	49	67	N. W.	24	2.88	....	Hazy	....	Cumulus..	2-4	N. W.	....	....	....	Fair.
2...		24.500	64	58.5	24.450	58	51	58.4	N. W.	21	2.20	...	Hazy	....	Cir. & cum.	2-4	N. W.	....	....	....	Fair.
3...		25.980	69	67	25.897	67	57	50.3	N. W.	8	.32	....	Smoky....	...	Cumulus..	2-4	W.	....	....	....	Fair.
4...		27.170	77.5	74	27.042	74	61	43.3	N. W.	12	.72	....	Hazy	....	Cumulus..	2-4	W.	....	....	....	Fair.
Station 1..	3 0	23.800	60	54	23.738	54	49	67	N. W.	20	2.00	....	Hazy	....	Cumulus..	2-4	N. W.	....	....	....	Fair.
2...		24.475	62	58	24.430	57.5	50	55.3	N. W.	23	2.64	....	Hazy	....	Cumulus..	3-4	N. W.	....	....	....	Fair.
3...		25.958	70	67	25.873	67	57	50.3	N. W.	8	.32	....	Stratus ...	1-4	Cumulus..	2-4	N. W.	....	....	....	Fair.
4...		27.14	77	74	27.013	74	61	43.3	W.	10	.50	....	Hazy	....	Cumulus..	2 4	N.	....	....	....	Fair.
Station 1...	4 0	23.789	60	53	23.727	53	48	66	N. W.	28	3.92	....	Hazy	....	Cumulus..	3-4	N. W.	....	....	....	Fair.
2..		24.445	60	58	24.404	57.5	51	60.9	N. W.	32	5.12	....	Hazy	....	Cumulus..	3-4	N. W.	....	....	....	Fair.
3...		25.930	69	68	25.847	68	58	51.1	W.	8	.32	....	Smoky....	....	Cumulus..	3-4	W.	....	....	....	Fair.
4...		27.120	76	73	26.996	74	62	47.2	W.	8	.32	...	Stratus ...	1-4	Cirrus	1-4	N. W.	....	....	....	Fair.
Station 1...	4 57	23.770	59	51	23.710	51	48	78	N. W.	30	4.50	....	Hazy	....	Cumulus..	3-4	N. W.	....	....	....	Fair.
2...		24.425	59	56	24.386	55.5	51	71.4	N. W.	18	1.62	....	Hazy	....	Cirro-cum.	3-4	N. W.	....	....	....	Fair.
3...		25.903	68	64	25.822	64	56.5	59.7	W.	6	.18	....	Stratus ...	2-4	Cumulus..	1-4	W.	....	....	....	Fair.
4...		27.116	74.5	69	26.995	69	59.9	54.0	N. W.	10	.50	....	Cumulus..	1-4	Cirrus	2-4	N. W.	....	....	....	Cloudy.
Station 1...	6 0	23.739	59	49	23.680	49	46	77	N. W.	32	5.12	....	Stratus ...	1-4	Cumulus..	3-4	N. W.	....	....	....	Fair.
2...		24.420	59	55	24.381	54.5	50	70.9	W.	25	3.12	...	Stratus ...	1-4	Cir. & cum.	2-4	W.	....	....	....	Fair.
3...		25.905	72	62.5	25.815	62.5	56	64.1	W.	7	.24	....	0	0	Cirrus	3-4	W.	....	....	....	Fair.
4...		27.121	74.5	66.5	26.999	66.5	58.5	59.1	N. W.	4	.08	....	Stratus ..	1-4	Cirrus	2-4	W.	....	....	....	Cloudy.
Station 1...	7 0	23.730	62	48	23.664	48	46	85	N. W.	32	5.12	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
2..		24.410	60	52.5	24.369	52	49	79.4	W.	34	5.78	....	Stratus ...	2-4	Cirrus	1-4	W.	....	....	....	Fair.
3...		25.903	72	60.5	25.813	60.5	54.5	65.3	W.	7	.24	....	0	0	Cumulus..	2-4	W.	....	....	....	Fair.
4...		27.118	71.5	64	27.005	64	57	62.5	W.	6	.18	....	Stratus ...	1-4	Cirrus	2-4	N. W.	....	....	....	Cloudy.
Station 1...	8 0	23.770	71	48	23.685	48	47	92	N. W.	30	4.50	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
2...		24.410	61	50	24.367	50	48	85.6	W.	30	4.50	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		25.890	68.5	57	25.808	57	53.5	78.0	W.	4	.08	....	Stratus ...	1-4	Cumulus..	1-4	W.	....	....	....	Fair.
4...		27.002	67.5	57	26.988	57	54	81.2	N. W.	1	.01	....	Stratus ...	3-4	0	0	....	....	....	....	Cloudy.
Station 1...	9 0	23.784	74	47	23.693	47	46	92	N. W.	36	6.48	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
2.		24.415	59	49.5	24.376	49.5	48	89.0	N. W.	16	1.28	....	Stratus ...	3-4	Cirrus	1-4	N. W.	....	....	....	Cloudy.
3...		25.876	66.5	55.5	25.799	55.5	52.5	80.5	W.	2	.02	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
4...		27.089	68	57	26.981	58	54.5	78.6	N.	2	.02	....	Stratus ...	1-4	Cirrus	2-4	....	....	....	....	Fair.

Station 1	10 0	23.770	78	46	23.670	46	45	92	N. W.	32	5.12		Stratus	4-4	Hidden						Cloudy.
2		24.405	59	48.5	24.366	48.5	47	88.8	W.	18	1.62		Stratus	4-4	Hidden						Threatening.
3		25.848	65	55.5	25.774	55.5	52	77.6	0	0	0		Stratus	4-4	Hidden						Cloudy.
4		27.065	67	56.5	26.962	56.5	53	78.0	N. W.	4	.08		Stratus	4-4	Hidden						Cloudy.
Station 1	11 22	23.710	76	42	23.614	42	41	91	N. W.	40	8.00		Nimbus	4-4	Hidden			10.30 p. m.			Heavy rain.
2		24.410	58	43	24.373	43	43	100	N. W.	24	2.88		Nimbus	4-4	Hidden			10.20 p. m.			Light rain.
3		25.890	64	48	25.819	48	48	100	N.	7	.24		Nimbus	4-4	Hidden			10.20 p. m.		.37	Light rain.
4		27.120	67.5	52.5	27.016	53	52	92.3	N. W.	4	.08		Nimbus	4-4	Hidden			10.25 p. m.		.39	Heavy rain.
Station 1	12 0 mid-night.	23.690	74	40	23.599	40	40	100	N. W.	40	8.00		Nimbus	4-4	Hidden						Heavy rain.
2		24.380	56	42	24.348	42	42	100	N. W.	38	7.22	499	Nimbus	4-4	Hidden						Light rain.
3		25.868	63	46	25.799	46	46	100	N.	2	.02	116	Nimbus	4-4	Hidden						Light rain.
4		27.100	65	52	27.002	53	51.5	89.8	N. W.	4	.08		Nimbus	4-4	Hidden						Rain.

Meteorological record for June 17, 1873.

	a. m.																				
Station 1	1 0	23.632	71	40	23.548	40	39	90	N. W.	46	10.56		Stratus	4-4	Hidden				12.45 a. m.		Cloudy.
2		24.329	55	42	24.299	41.5	41.5	100	W.	37	6.81		Stratus	4-4	Hidden				12.20 a. m.		Cloudy.
3		25.840	63	46	25.771	46	46	100	N. W.	6	.18		Stratus	4-4	Hidden				12.30 a. m.		Cloudy.
4		27.060	65	52	26.962	53	50	79.8	0	0	0		Nimbus	4-4	Hidden				1.15 a. m.		Rain.
Station 1	2 0	23.630	66	40	23.556	40	39	90	N. W.	42	8.82		Stratus	4-4	Hidden						Cloudy.
2		24.347	64	42	24.298	42	42	100	N. W.	36	6.48		Stratus	4-4	Hidden						Cloudy.
3		25.835	67	46	25.757	46	46	100	N. W.	8	.32		Stratus	4-4	Hidden						Threatening.
4		27.045	63	52.5	26.952	53	51	86.4	W.	4	.08		Stratus	4-4	Hidden						Cloudy.
Station 1	3 0	23.615	62	40	23.550	40	39	90	N. W.	40	8.00		Stratus	4-4	Hidden						Cloudy.
2		24.349	63	42	24.302	41.5	41.5	100	N. W.	35	5.12		Stratus	4-4	Hidden						Cloudy.
3		25.832	66	46	25.756	46	46	100	N. W.	10	.50		Stratus	4-4	Hidden						Threatening.
4		27.050	63	52	26.957	52	50.5	89.6	W.	8	.32		Stratus	4-4	Hidden						Cloudy.
Station 1	4 0	23.625	71	39	23.540	39	38	90	N. W.	42	8.82		Stratus	4-4	Hidden						Cloudy.
2		24.354	59	41.5	24.316	41.5	41.5	100	N. W.	25	3.12		Stratus	4-4	Hidden						Cloudy.
3		25.838	64	46	25.767	46	46	100	N. W.	8	.32		Stratus	4-4	Hidden						Cloudy.
4		27.050	63	51	26.957	51.5	50	89.5	N. W.	8	.32		Stratus	4-4	Hidden						Cloudy.
Station 1	5 0	23.645	75	40	23.551	40	39	90	N. W.	37	6.84		Stratus	4-4	Hidden						Cloudy.
2		24.366	57	42	24.332	41.5	41.5	100	N.	24	2.88		Stratus	4-4	Hidden						Cloudy.
3		25.838	61	46.5	25.774	46.5	46.5	100	N. W.	8	.32		Stratus	4-4	Hidden						Cloudy.
4		27.070	62	51	26.979	51.5	50	89.5	N. W.	4	.08		Stratus	4-4	Hidden						Cloudy.
Station 1	6 0	23.670	76	40	23.574	40	39	90	N. W.	26	3.38		Stratus	4-4	Hidden						Cloudy.
2		24.370	58	42.5	24.334	42	42	100	N. W.	26	3.38		Nimbus	4-4	Hidden			5.20 a. m.			Light rain.
3		25.860	65	47	25.785	47	47	100	N. W.	8	.32		Stratus	4-4	Hidden						Cloudy.
4		27.078	61	51.5	26.990	51.5	50	89.5	N. W.	8	.32		Stratus	4-4	Hidden						Cloudy.
Station 1	7 0	23.685	74	39	23.594	39	39	100	N. W.	40	8.00		Stratus	4-4	Hidden						Cloudy.
2		24.398	63	42	24.350	41.5	41.5	100	N. W.	18	1.62		Nimbus	4-4	Hidden						Light rain.
3		25.888	66	46.5	25.812	46.5	46.5	100	N. W.	7	.24		Stratus	4-4	Hidden						Cloudy.
4		27.098	59	52.5	27.014	52.5	50.5	86.3	N. W.	8	.32		Stratus	4-4	Hidden						Cloudy.
Station 1	7 57	23.665	68	37	23.587	37	37	100	N. W.	48	11.52		Stratus	4-4	Hidden					.15	Clearing up.
2		24.401	63	39	24.353	39.5	39.5	100	N. W.	25	3.12		Stratus	4-4	Hidden				7.30 a. m.	.13	Cloudy.
3		25.900	64	44	25.829	44	44	100	N. W.	8	.32		Stratus	4-4	Hidden					.07	Cloudy.
4		27.120	59	50	27.036	50	48	85.6	N.	6	.18		Stratus	4-4	Hidden					.10	Cloudy.

Meteorological record for June 17, 1873—Continued.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'ed.	Ended.		
	a. m.																				
Station 1	9 0	23.688	66	37	23.614	37	37	100	N. W.	24	14.58	....	Stratus	4-4	Hidden						Clearing up.
2		24.400	51.5	38	24.378	37.5	37.5	100	N. W.	20	2.00	....	Stratus	4-4	Hidden						Cloudy.
3		25.915	64.5	42	25.843	42	42	100	N. W.	6	.18	....	Stratus	4-4	Hidden						Cloudy.
4		27.151	60	51	27.065	52	49	79.4	N. W.	4	.08	....	Stratus	4-4	Hidden						Cloudy.
Station 1	10 0	23.679	63	36	23.612	36	35	90	N. W.	50	12.50	....	Cumulus	1-4	Cumulus	1-8	N. W.				Fair.
2		24.400	51.5	38.5	24.378	37.5	37.5	100	N.	14	.98	....	Stratus	4-4	Hidden						Cloudy.
3		25.925	64.5	43.5	25.853	43.5	43	95.8	N. W.	5	.12	....	Stratus	3-4	Cumulus	1-4	N. W.				Cloudy.
4		27.161	62	52	27.070	52.5	49	76.3	N.	4	.08	....	Stratus	3-4	0	0					Cloudy.
Station 1	11 0	23.701	63	37	23.633	37	33	62	N. W.	50	12.50	....	Cumulus	1-4	0	0					Fair.
2		24.430	59	41.5	24.391	41.5	38.5	74.1	N.	26	3.38	....	Stratus	2-4	0	0					Fair.
3		25.919	63	46.5	25.850	46.5	46	96.1	N. W.	5	.12	....	0	0	Cumulus	3-4	N. W.				Fair.
4		27.161	63	53	27.068	54	48	61.3	N. W.	6	.18	....	Stratus	3-4	0	0					Cloudy.
Station 1	12 0 m.	23.710	61	37	23.646	37	33	62	N. W.	40	8.00	....	Cumulus	1-4	0	0					Fair.
2		24.438	59.5	41	24.398	39.5	38.5	90.7	N.	16	1.28	....	Stratus	2-4	0	0					Fair.
3		25.930	63	47	25.861	47	44	77.2	W.	7	.21	..	0	0	Cumulus	3-4	N. W.				Fair.
4		27.177	63	54.5	27.084	55	48.5	59.0	N. W.	4	.08	136	Stratus	2-4	0	0					Cloudy.
	p. m.																				
Station 1	1 0	23.729	66	38	23.655	38	36	81	N. W.	40	8.00	....	Cumulus	1-4	Cumulus	1-4	N. W.				Fair.
2		24.438	59	42.5	24.399	42	40	82.9	N. W.	13	.84	....	0	0	Cumulus	2-4	N. W.				Fair.
3		25.932	62.5	49.5	25.864	49.5	45	67.6	N. W.	6	.18	....	0	0	Cumulus	2-4	N. W.				Fair.
4		27.176	62	56.5	27.085	57	49	52.1	N. W.	6	.18	....	Stratus	2-4	0	0					Fair.
Station 1	2 0	23.731	74	39	23.660	39	38	72	N. W.	36	6.48	....	0	0	Cumulus	1-4	N. W.				Fair.
2		24.433	58	44.5	24.396	44	40	67.7	N. W.	22	2.42	....	0	0	Cumulus	1-4	N. W.				Fair.
3		25.922	67	51	25.851	51	46	65.3	N. W.	5	.12	....	0	0	Cumulus	1-4	N. W.				Fair.
4		27.178	64	57	27.082	57	50	57.7	N. W.	8	.32	....	Stratus	1-4	0	0					Fair.
Station 1	3 0	23.761	80	37	23.655	37	35	80	N. W.	50	12.50	....	0	0	Cumulus	1-8	N. W.				Fair.
2		24.440	60	46	24.399	45.5	40	57.5	W.	31	4.80	...	0	0	Cumulus	1-4	N. W.				Fair.
3		25.932	63.5	51	25.862	51	46	65.3	N. W.	10	.50	....	Hazy		Cumulus	1-4	N. W.				Clear.
4		27.171	64	58	27.075	58	49	47.5	W.	8	.32	....	Stratus	1-8	0	0					Clear.
Station 1	4 0	23.755	76	38	23.659	38	35	71	N. W.	48	11.52	....	0	0	Cumulus	1-8	N. W.				Fair.
2		24.435	57	45.5	24.401	45	40	60.7	N. W.	26	3.38	....	Hazy		Cumulus	1-4	N. W.				Fair.
3		25.935	64.5	51	25.863	51	44	52.5	N. W.	5	.12	....	Hazy		Cumulus	1-4	N. W.				Fair.
4		27.170	65.5	57	27.071	57	49	52.1	N. E.	8	.32	....	Stratus	1-8	0	0					Clear.
Station 1	4 57	23.745	72	37	23.658	37	34	71	N. W.	54	14.58	....	0	0	Cumulus	1-8	N. W.				Fair.
2		24.432	60	45.5	24.391	45	39	53.3	N. W.	26	3.38	....	Hazy		Cumulus	1-4	N. W.				Fair.
3		25.938	66	54	25.862	54	45	43.4	N. W.	5	.12	....	Hazy		Cumulus	1-4	N. W.				Clear.
4		27.175	67	56	27.071	56.5	47	43.3	W.	10	.50	....	0	0	0	0					Clear.

Station 1...	6 0	23.720	68	36	23.641	36	34	80	N. W.	42	8.82	....	0	0	Cumulus..	2-4	N. W	....	....	....	Fair.
2...		24.435	59	43.5	24.396	43	39.5	70.8	N. W.	28	3.92	....	Stratus ...	2-4	0	0	....	....	....	....	Fair.
3...		25.950	69.5	51	25.866	51	44	52.5	N. W.	8	.32	....	Hazy	....	Cumulus..	1-4	N. W.	....	....	....	Clear.
4...		27.182	67	53.5	27.079	54	47	55.2	S. W.	8	.32	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
Station 1...	7 0	23.715	63	35	23.647	35	34	90	N. W.	50	12.50	....	Stratus ...	4-4	Hidden ...	...	....	....	....	....	Cloudy.
2...		24.449	63	40	24.401	40	38	82.0	W.	24	2.88	....	Stratus ...	2-4	Cumulus..	1-4	W.	....	....	....	Fair.
3...		25.951	66	46	25.875	46	42	69.1	N. W.	8	.32	....	0	0	Cumulus..	2-4	N. W.	....	....	....	Fair.
4...		27.182	61.5	51	27.093	51	45	50.0	N. W.	6	.18	....	Stratus ...	2-4	0	0	....	....	....	....	Fair.
Station 1...	8 0	23.680	60	35	23.618	35	34	90	N. W.	50	12.50	....	Stratus ...	4-4	Hidden ...	...	....	....	....	....	Cloudy.
2...		24.439	58	37	24.402	37	35	80.7	W.	24	2.88	....	Stratus ...	2-4	0	0	....	....	....	....	Fair.
3...		25.941	67.5	43	25.862	43	40	75.0	N. W.	6	.18	....	0	0	Cumulus..	1-4	N. W.	....	....	....	Clear.
4...		27.192	61.5	49	27.103	50	45	64.6	N. E.	4	.08	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
Station 1...	9 0	23.680	59	33	23.621	33	32	89	N. W.	44	9.68	....	Stratus ...	4-4	Hidden ...	...	....	....	....	....	Cloudy.
2...		24.439	54	35	24.411	35	34	89.8	N. W.	19	1.80	....	Stratus ...	2-4	0	0	....	....	....	....	Fair.
3...		25.943	61	42.5	25.879	42.5	39.5	74.4	N.	7	.24	....	0	0	0	0	....	....	....	....	Clear.
4...		27.195	61	47	27.107	48	43.5	66.6	N. W.	3	.04	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	10 0	23.665	58	32	23.606	32	30	70	N. W.	50	12.50	....	Stratus ...	2-4	0	0	....	....	....	....	Fair.
2...		24.410	45	34	24.402	34	33	89.5	N. W.	26	3.38	...	0	0	0	0	....	....	....	....	Clear.
3...		25.931	59.5	42	25.870	42	38	66.1	N. W.	8	.32	....	0	0	0	0	....	....	....	....	Clear.
4...		27.188	60	46.5	27.102	47.5	42	59.4	W.	4	.08	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	11 22	23.695	69	30	23.614	30	29	89	N. W.	48	11.52	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
2...		24.421	49	33	24.404	33	31	80.0	N. W.	27	3.64	....	0	0	0	0	....	....	....	....	Clear.
3...		25.926	55.5	41	25.871	41	37.5	69.2	N. W.	10	.50	....	0	0	0	0	....	....	....	....	Clear.
4...		27.175	58	45	27.094	46	41	61.7	N. W.	4	.03	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	12 0 mid-night.	23.710	67	30	23.633	31	30	89	N. W.	40	8.00	...	Stratus ...	1-8	0	0	....	....	....	....	Fair.
2...		24.422	48	32	24.407	32	31	89.6	N. W.	20	2.00	621	0	0	0	0	....	....	....	....	Clear.
3...		25.921	54.5	40	25.872	40	37	73.2	N.	6	.18	189	0	0	0	0	....	....	....	....	Clear.
4...		27.168	57	43	27.089	44	40	67.7	N.	2	.02	....	0	0	0	0	....	....	....	....	Clear.

Meteorological record for June 18, 1873.

	a. m.																....				
Station 1...	1 0	23.710	78	30	23.605	31	30	89	W.	48	11.52	....	0	0	0	0	....	....	....	....	Clear.
2...		24.400	47	37.5	24.387	37.5	34	66.9	N.	27	3.64	....	0	0	0	0	....	....	....	....	Clear.
3...		25.932	57.5	39	25.876	39	37.5	86.0	N.	6	.18	....	0	0	0	0	....	....	....	....	Clear.
4...		27.180	57	41	27.101	41.5	39	78.4	N.	4	.08	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	2 0	23.730	74	29	23.639	29	26	67	N. W.	48	11.52	....	0	0	0	0	....	....	....	....	Clear.
2...		24.420	47.5	32	24.406	32	28	59.4	N.	23	2.64	....	0	0	0	0	....	....	....	....	Clear.
3...		25.940	60.5	38	25.877	38	34	62.8	N.	5	.12	....	0	0	0	0	....	....	....	....	Clear.
4...		27.168	56	38.5	27.092	39.5	37	89.6	N.	4	.08	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	3 0	23.725	70	29	23.612	29	26	67	N. W.	36	6.48	....	Stratus ...	1-8	0	0	....	....	....	....	Fair.
2...		24.427	51	31	24.406	31	27.5	63.5	N. W.	26	3.38	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
3...		25.938	61	37	25.874	37	33	61.9	N.	4	.08	....	0	0	0	0	....	....	....	....	Clear.
4...		27.182	54	37	27.110	38	36.5	85.8	N.	4	.08	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	4 0	23.740	69	29	23.659	29	26	67	N. W.	20	2.00	....	Stratus ...	1-8	0	0	....	....	....	....	Fair.
2...		24.435	55	31.5	24.405	31	27	58.2	N.	36	3.38	....	Stratus ...	1-4	Cirrus ...	1-4	N. E.	....	....	....	Fair.
3...		25.940	58	37	25.882	37	33	61.9	N.	5	.12	....	0	0	0	0	....	....	....	....	Clear.
4...		27.170	54	36.5	27.098	37	35	80.7	N.	4	.08	....	0	0	Cirrus	1-4	....	....	....	....	Clear.

Meteorological record for June 16, 1873—Continued.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Common'd.	Ended.		
	a. m.																				
Station 1	5 0	23.745	67	29	23.668	29	26	67	N. W.	24	2.88	....	0	0	Cirrus	3-4	N. W.	....	....	....	Fair.
2		24.460	56.5	31.5	24.427	30.5	27.5	68.0	N. W.	25	3.12	....	Stratus	1-4	Cirrus	2-4	N. W.	....	....	....	Fair.
3		25.950	58.5	38	25.891	38	33.5	57.7	N. E.	5	.12	....	0	0	Cirrus	3-4	N. W.	....	....	....	Fair.
4		27.190	54	36.5	27.118	37	35	80.7	N.	4	.08	....	0	0	Cirrus	3-4	....	....	....	....	Fair.
Station 1	6 0	23.766	67	29	23.683	29	26	67	N. W.	36	6.48	....	0	0	Cirrus	2-4	N. W.	....	....	....	Fair.
2		24.468	55	33.5	24.438	32.5	28.5	59.7	N.	18	1.62	....	Stratus	1-4	Cirrus	2-4	W.	....	....	....	Fair.
3		25.960	58.5	38	25.901	38	34	62.8	N. E.	10	.50	....	0	0	Cirrus	2-4	N. W.	....	....	....	Fair.
4		27.205	53	39	27.136	39	37	81.6	N.	4	.08	....	0	0	Cirrus	2-4	....	....	....	....	Fair.
Station 1	7 0	23.770	66	32	23.695	32	29	69	N. W.	20	2.00	....	0	0	Cirrus	1-4	N. W.	....	....	....	Fair.
2		24.460	54	35	24.432	34	30	61.7	N.	13	.84	....	Stratus	1-4	Cirrus	1-4	E.	....	....	....	Fair.
3		25.968	56	39.5	25.915	39.5	34	51.2	N. E.	4	.08	....	0	0	Cirrus	1-4	N. W.	....	....	....	Clear.
4		27.198	51	44	27.134	44.5	39.5	59.7	0	0	0	....	0	0	Cirrus	1-4	N. W.	....	....	....	Clear.
Station 1	7 57	23.761	59	34	23.701	34	30	61	N. W.	32	5.12	....	0	0	Cirrus	1-4	N. W.	....	....	....	Fair.
2		24.518	65.5	38	24.465	37.5	36.5	90.4	N.	12	.72	....	Stratus	1-4	Cirrus	1-4	N.	....	....	....	Fair.
3		25.975	56	42	25.912	42	36.5	53.4	0	0	0	....	0	0	Cirrus	1-4	N. W.	....	....	....	Clear.
4		27.205	52	47	27.138	47.5	40	45.4	S. W.	2	.02	....	0	0	Cirrus	1-4	N. W.	....	....	....	Clear.
Station 1	9 0	23.768	54	39	23.718	35	30	52	N. W.	42	8.82	....	0	0	Cirrus	1-4	N. W.	....	....	....	Fair.
2		24.475	55	39	24.445	38	32	45.0	N.	13	.84	....	Stratus	1-4	Cirrus	1-4	N.	....	....	....	Fair.
3		25.970	58	45	25.913	45	38	45.9	N.	6	.18	....	0	0	0	0	....	....	....	....	Clear.
4		27.211	56	51	27.137	51.5	42	39.6	N. W.	4	.08	....	0	0	0	0	....	....	....	....	Clear.
Station 1	10 0	23.783	63	38	23.715	38	32	46	N. W.	40	8.00	....	0	0	Cirrus	1-4	....	....	....	....	Fair.
2		24.468	52	42.5	24.444	41	34	40.7	N.	13	.84	....	Stratus	1-4	Cirrus	1-4	N.	....	....	....	Fair.
3		25.970	58	48	25.913	48	40	42.6	N.	5	.12	....	0	0	0	0	....	....	....	....	Clear.
4		27.207	56	53	27.131	54	44	37.6	N. W.	6	.18	....	0	0	0	0	....	....	....	....	Clear.
Station 1	11 0	23.820	71	40	23.735	40	33	40	N. W.	30	6.48	....	0	0	Cirrus	1-4	N. W.	....	....	....	Fair.
2		24.480	62	46.5	24.435	45.5	37.5	38.8	W.	6	.18	....	Stratus	1-4	Cirrus	1-4	N. W.	....	....	....	Fair.
3		25.960	63	53	25.891	53	45	48.3	N.	6	.18	....	0	0	Cirrus	1-4	....	....	....	....	Clear.
4		27.199	57	56	27.120	57	46	35.8	W.	8	.32	....	Hazy	....	0	0	....	....	....	....	Clear.
Station 1	12 m.	23.830	60	43	23.748	43	37	51	N. W.	30	4.50	....	0	0	Cirrus	1-4	N. W.	....	....	....	Fair.
2		24.485	64	48.5	24.435	48	40	42.6	W.	5	.12	....	Stratus	1-4	Cirrus	2-4	N. W.	....	....	....	Fair.
3		25.960	63	53	25.891	53	45	48.3	W.	6	.18	..	0	0	Cirrus	2-4	W.	....	....	....	Fair.
4		27.187	58	59	27.106	59	48	38.1	W.	8	.32	116	0	0	Cirrus	2-4	N. W.	....	....	....	Fair.
	p. m.																				
Station 1	1 0	23.822	68	43	23.718	43	37	51	N. W.	22	2.42	....	0	0	Cirrus	2-4	N.W.	....	....	....	Fair.
2		24.475	68	50	24.421	49	40	37.3	W.	19	1.80	....	Stratus	1-4	Cirrus	2-4	N.W.	....	....	....	Fair.
3		25.955	63.5	56	25.885	56	45.5	36.7	W.	4	.08	....	0	0	Cirrus	2-4	N.W.	....	....	....	Fair.
4		27.172	62	61	27.081	61	49	35.3	W.	6	.18	....	0	0	Cirrus	3-4	N.W.	....	....	....	Fair.

Station 1...	2 0	23.800	68	44	23.721	44	38	51	N. W.	12	.72	....	0	0	Cirrus	2-4	N.W.	....	....	....	Fair
2...		24.458	63	52	24.410	51.5	42.5	40.5	W.	19	1.80	....	Hazy	....	Cirrus	3-4	N.W.	....	....	....	Fair.
3...		25.940	66	59	25.864	59	48	38.1	W.	6	.18	....	Hazy	....	Cirrus	3-4	W.	....	....	....	Fair.
4...		27.165	64	62	27.069	62	51	41.2	N. W.	6	.18	....	0	0	Cirrus	3-4	N.W.	....	....	....	Fair.
Station 1...	3 0	23.779	67	43	23.702	43	37	51	N. W.	28	3.92	....	0	0	Cirrus	2-4	N.W.	....	....	....	Fair.
2...		24.458	62	51.5	24.412	50.5	42	42.4	W.	19	1.80	....	Hazy	....	Cirrus	3-4	N.W.	....	....	....	Fair.
3...		25.928	62.5	60	25.860	60	48.5	36.1	W.	7	.24	....	Stratus ...	1-4	Cirrus	2-4	W.	....	....	....	Fair.
4...		27.158	65	63	27.060	63	51	37.5	W.	4	.08	....	0	0	Cirrus	3-4	N.W.	....	....	....	Fair.
Station 1...	4 0	23.780	67	43	23.703	43	37	51	N. W.	28	3.92	....	0	0	Cirrus	2-4	N.W.	....	....	....	Fair.
2...		24.458	66	54	24.404	53	44	42.3	W.	18	1.62	....	Stratus ...	2-4	Cirrus	2-4	N.W.	....	....	....	Cloudy.
3...		25.910	63.5	60	25.840	60	49.5	41.2	S. W.	6	.18	....	Stratus ...	1-4	Cirrus	1-4	W.	....	....	....	Fair.
4...		27.140	67	63	27.037	63	51	37.5	W.	4	.08	....	0	0	Cirrus	3-4	N.W.	....	....	....	Fair.
Station 1...	4 57	23.758	70	44	23.675	44	38	51	N. W.	30	4.50	....	0	0	Cirrus	3-4	N.W.	....	....	....	Fair.
2...		24.429	60	52	24.388	51.5	42.5	40.5	W.	22	2.42	....	Stratus ...	2-4	Cirrus	2-4	N.W.	....	....	....	Cloudy.
3...		25.891	63	58.5	25.822	58.5	48	40.1	S. W.	4	.08	....	Stratus ...	2-4	Cirrus	1-4	W.	....	....	....	Cloudy.
4...		27.118	66.5	64	27.017	64	53	43.2	W.	1	.01	....	0	0	Cirrus	3-4	N.W.	....	....	....	Cloudy.
Station 1...	6 0	23.740	64	45	23.670	45	39	53	N. W.	36	6.48	....	Hazy	....	Stratus ...	4-4	N.W.	....	....	....	Cloudy.
2...		24.410	59	50	24.371	50	42	45.0	W.	16	1.28	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		25.892	67	57.5	25.814	57.5	49.5	51.2	S.	4	.08	....	Stratus ...	2-4	Cirrus	1-4	W.	....	....	....	Cloudy.
4...		27.100	65.5	61	27.001	61	53	37.5	0	0	0	....	0	0	Cirrus	3-4	N.W.	....	....	....	Cloudy.
Station 1...	7 0	23.720	59	44	23.604	44	39	60	N. W.	30	4.50	....	Hazy	....	Stratus ...	4-4	N.W.	....	....	....	Cloudy.
2...		24.409	59	48	24.370	48	42	56.3	W.	30	4.50	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		25.992	65	55.5	25.818	55.5	47.5	50.2	S. W.	8	.32	....	Stratus ...	3-4	Cirrus	1-4	W.	....	....	....	Cloudy.
4...		27.100	64.5	59.5	27.003	60	51.5	51.9	S. W.	3	.04	....	0	0	Cirrus	3-4	N.W.	....	....	....	Cloudy.
Station 1...	8 0	23.750	65	44	23.678	44	39	60	N. W.	34	5.78	....	Hazy	....	Stratus ...	4-4	N.W.	....	....	....	Cloudy.
2...		24.399	53	48	24.373	48	42	56.3	W.	30	4.50	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		25.883	63	54.5	25.814	54.5	47.5	55.2	S.	5	.12	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
4...		27.092	63.5	57	26.998	57.5	49.5	52.5	S.	2	.02	....	0	0	Cirrus	3-4	N.W.	....	....	....	Cloudy.
Station 1...	9 0	23.762	74	44	23.671	44	40	67	N. W.	40	8.00	....	Hazy	....	Stratus ...	4-4	N.W.	....	....	....	Cloudy.
2...		24.399	52	48	24.375	48	42	56.3	W.	31	4.80	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		25.883	63	54.5	25.814	54.5	48	58.7	S.	2	.02	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
4...		27.078	61	55	26.990	56	49	56.9	S. E.	3	.04	....	0	0	Cirrus	3-4	....	....	....	....	Cloudy.
Station 1...	10 0	23.741	74	44	23.650	44	39	60	N. W.	42	8.82	....	Hazy	....	Stratus ...	4-4	N.W.	....	....	....	Cloudy.
2...		24.371	56	48	24.339	48	41.5	52.8	W.	37	6.84	....	Nimbus...	4-4	Hidden ...	....	....	9.55 p.m.	....	....	Light rain.
3...		25.870	62	54.5	25.803	54.5	47.5	55.2	W.	5	.12	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Threatening.
4...		27.065	61	54.5	26.977	55	48.5	59.0	S. W.	4	.08	....	0	0	Cirrus	3-4	W.	....	....	....	Cloudy.
Station 1...	11 22	23.689	69	44	23.608	44	39	60	N. W.	48	11.52	....	Hazy	....	Stratus ...	2-4	N.W.	....	....	....	Fair.
2...		24.368	62	48	24.323	48	42	56.3	W.	35	6.12	....	Nimbus...	4-4	Hidden ...	....	....	....	....	.02	Light rain.
3...		25.858	65	55.5	25.784	55.5	47.5	50.2	W.	6	.18	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Threatening.
4...		27.045	60	53.5	26.959	54.5	48.5	61.6	S.	4	.08	....	0	0	Cirrus	3-4	W.	....	....	....	Cloudy.
Station 1...	12 0 mid-night.	23.682	69	44	23.601	44	39	60	N. W.	50	12.50	...	Hazy	....	Stratus ...	2-4	N.W.	....	....	....	Fair.
2...		24.358	59	48	24.319	48	43	63.1	W.	32	5.12	500	Nimbus...	2-4	0	0	....	....	....	....	Light rain.
3...		25.842	64	56	25.771	56	48.5	53.6	W.	5	.12	122	Stratus ...	4-4	Hidden ...	....	....	11.30 p.m.	....	....	Cloudy.
4...		27.038	60	56	26.952	57	50	57.7	S. W.	4	.08	....	Stratus ...	1-4	Cirrus	2-4	W.	....	....	....	Cloudy.

Meteorological record for June 19, 1873.

Station 1...	*a. m.* 1 0	23.700	68	43	23.621	43	40	75	N. W.	56	15,68	....	Nimbus...	4-4	Hidden ...	....	....	12.40 a. m	....	....	Light rain.
3...		24.360	58.5	47	24.322	47	43.5	73.5	N. W.	25	3.12	....	Nimbus ..	4-4	Hidden ...	....	....	1.00 a. m	12.30a.m.	....	Light rain.
3...		25.850	66	54.5	25.774	54.5	48.5	61.3	S. W.	5	.12	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light rain.
4...		27.030	60	59	26.944	60	51	49.3	S. W.	4	.08	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.

Meteorological record for June 16, 1873—Continued.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Common'd.	Ended.		
	a. m.																				
Station 1...	5 0	23.745	67	29	23.668	29	26	67	N. W.	24	2.88	....	0	0	Cirrus	3-4	N. W.	....	....	....	Fair.
2...		24.460	56.5	31.5	24.427	30.5	27.5	68.0	N. W.	25	3.12	....	Stratus ...	1-4	Cirrus	2-4	N. W.	....	....	....	Fair.
3...		25.950	58.5	38	25.891	38	33.5	57.7	N. E.	5	.12	....	0	0	Cirrus	3-4	N. W.	....	....	....	Fair.
4...		27.190	54	36.5	27.118	37	35	80.7	N.	4	.08	....	0	0	Cirrus	3-4	....	....	....	....	Fair.
Station 1...	6 0	23.760	67	29	23.683	29	26	67	N. W.	36	6.48	....	0	0	Cirrus	2-4	N. W.	....	....	....	Fair.
2...		24.468	55	33.5	24.438	32.5	28.5	59.7	N.	18	1.62	....	Stratus ...	1-4	Cirrus	2-4	W.	....	....	....	Fair.
3...		25.960	58.5	38	25.901	38	34	62.8	N. E.	10	.50	...	0	0	Cirrus	2-4	N. W.	....	....	....	Fair.
4...		27.205	53	39	27.136	39	37	81.6	N.	4	.08	....	0	0	Cirrus	2-4	....	....	....	....	Fair.
Station 1...	7 0	23.770	66	32	23.695	32	29	69	N. W.	20	2.00	....	0	0	Cirrus	1-4	N. W.	....	....	....	Fair.
2...		24.460	54	35	24.432	34	30	61.7	N.	13	.84	....	Stratus ...	1-4	Cirrus	1-4	E.	....	....	....	Fair.
3...		25.968	56	39.5	25.915	39.5	34	51.2	N. E.	4	.08	....	0	0	Cirrus	1-4	N. W.	....	....	....	Clear.
4...		27.198	51	44	27.134	44.5	39.5	59.7	0	0	0	....	0	0	Cirrus	1-4	N. W.	....	....	....	Clear.
Station 1...	7 57	23.761	59	34	23.701	34	30	61	N. W.	32	5.12	....	0	0.	Cirrus	1-4	N. W.	....	....	....	Fair.
2...		24.518	65.5	38	24.465	37.5	36.5	90.4	N.	12	.72	...	Stratus ...	1-4	Cirrus	1-4	N.	....	....	....	Fair.
3...		25.975	56	42	25.912	42	36.5	53.4	0	0	0	....	0	0	Cirrus	1-4	N. W.	....	....	....	Clear.
4...		27.205	52	47	27.138	47.5	40	45.4	S. W.	2	.02	....	0	0	Cirrus	1-4	N. W.	....	....	....	Clear.
Station 1...	9 0	23.768	54	39	23.718	35	30	52	N. W.	42	8.82	....	0	0	Cirrus	1-4	N. W.	....	....	....	Fair.
2...		24.475	55	39	24.445	38	32	45.0	N.	13	.84	....	Stratus ...	1-4	Cirrus	1-4	N.	....	....	....	Fair.
3...		25.970	58	45	25.913	45	38	45.9	N.	6	.18	....	0	0	0	0	....	....	....	....	Clear.
4...		27.211	56	51	27.137	51.5	42	39.6	N. W.	4	.08	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	10 0	23.783	63	38	23.715	38	32	46	N. W.	40	8.00	....	0	0	Cirrus	1-4	....	....	....	....	Fair.
2...		24.468	52	42.5	24.444	41	34	40.7	N.	13	.84	....	Stratus ...	1-4	Cirrus	1-4	N.	....	....	....	Fair.
3...		25.970	58	48	25.913	48	40	42.6	N.	5	.12	....	0	0	0	0	....	....	....	....	Clear.
4...		27.207	56	53	27.131	54	44	37.6	N. W.	6	.18	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	11 0	23.820	71	40	23.735	40	34	40	N. W.	36	6.48	....	0	0	Cirrus	1-4	N. W.	....	....	....	Fair.
2...		24.480	62	46.5	24.435	45.5	37.5	38.8	W.	6	.18	....	Stratus ...	1-4	Cirrus	1-4	N. W.	....	....	....	Fair.
3...		25.960	63	53	25.891	53	45	48.3	N.	6	.18	....	0	0	Cirrus	1-4	....	....	....	....	Clear.
4...		27.190	57	56	27.120	57	46	35.8	W.	8	.32	....	Hazy	....	0	0	....	....	....	....	Clear.
Station 1...	12 m.	23.830	60	43	23.748	43	37	51	N. W.	30	4.50	...	0	0	Cirrus	1-4	N. W.	....	....	....	Fair.
2...		24.485	64	48.5	24.435	48	40	42.6	W.	5	.12	....	Stratus ...	1-4	Cirrus	2-4	N. W.	....	....	....	Fair.
3...		25.960	63	53	25.891	53	45	48.3	W.	6	.18	..	0	0	Cirrus	2-4	W.	....	....	....	Fair.
4...		27.187	58	59	27.106	59	48	38.1	W.	8	.32	110	0	0	Cirrus	2-4	N. W.	....	....	....	Fair.
	p. m.																				
Station 1...	1 0	23.828	68	43	23.748	43	37	51	N. W.	22	2.42	...	0	0	Cirrus	2-4	N.W.	....	....	....	Fair.
2...		24.475	66	50	24.421	49	40	37.3	W.	19	1.80	...	Stratus ...	1-4	Cirrus	2-4	N.W.	....	....	....	Fair.
3...		25.935	63.5	56	25.885	56	45.5	36.7	W.	4	.08	...	0	0	Cirrus	2-4	N.W.	....	....	....	Fair.
4...		27.172	62	61	27.081	61	49	35.3	W.	6	.18	....	0	0	Cirrus	3-4	N.W.	....	....	....	Fair.

Station 1...	2 0	23.800	68	44	23.721	44	38	51	N. W.	12	.72	....	0	0	Cirrus	2-4	N.W.	....	....	....	Fair
2...		24.458	63	52	24.410	51.5	42.5	40.5	W.	19	1.80	....	Hazy	....	Cirrus	3-4	N.W.	....	....	....	Fair.
3...		25.940	66	59	25.864	59	48	38.1	W.	6	.18	....	Hazy	....	Cirrus	3-4	W.	....	....	....	Fair.
4...		27.165	64	62	27.069	62	51	41.2	N. W.	6	.18	....	0	0	Cirrus	3-4	N.W.	....	....	....	Fair.
Station 1...	3 0	23.779	67	43	23.702	43	37	51	N. W.	28	3.92	....	0	0	Cirrus	2-4	N.W.	....	....	....	Fair.
2...		24.458	62	51.5	24.412	50.5	42	42.4	W.	19	1.80	....	Hazy	....	Cirrus	3-4	N.W.	....	....	....	Fair.
3...		25.928	62.5	60	25.860	60	48.5	36.1	W.	7	.24	....	Stratus ...	1-4	Cirrus	2-4	W.	....	....	....	Fair.
4...		27.158	65	63	27.060	63	51	37.5	W.	4	.08	....	0	0	Cirrus	3-4	N.W.	....	....	....	Fair.
Station 1...	4 0	23.780	67	43	23.703	43	37	51	N. W.	28	3.92	....	0	0	Cirrus	2-4	N.W.	....	....	....	Fair.
2...		24.458	66	54	24.404	53	44	42.3	W.	18	1.62	....	Stratus ...	2-4	Cirrus	2-4	N.W.	....	....	....	Cloudy.
3...		25.910	63.5	60	25.840	60	49.5	41.2	S. W.	6	.18	....	Stratus ...	1-4	Cirrus	1-4	W.	....	....	....	Fair.
4...		27.140	67	63	27.037	63	51	37.5	W.	4	.08	....	0	0	Cirrus	3-4	N.W.	....	....	....	Fair.
Station 1...	4 57	23.758	70	44	23.675	44	38	51	N. W.	30	4.50	....	0	0	Cirrus	3-4	N.W.	....	....	....	Fair.
2...		24.429	60	52	24.388	51.5	42.5	40.5	W.	22	2.42	....	Stratus ...	2-4	Cirrus	2-4	N.W.	....	....	....	Cloudy.
3...		25.891	63	58.5	25.822	58.5	48	40.1	S. W.	4	.08	....	Stratus ...	2-4	Cirrus	1-4	W.	....	....	....	Cloudy.
4...		27.118	66.5	64	27.017	64	53	43.2	W.	1	.01	....	0	0	Cirrus	3-4	N.W.	....	....	....	Cloudy.
Station 1...	6 0	23.740	64	45	23.670	45	39	53	N. W.	36	6.48	....	Hazy	....	Stratus ...	4-4	N.W.	....	....	....	Cloudy.
2...		24.410	59	50	24.371	50	42	45.0	W.	16	1.28	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		25.892	67	57.5	25.814	57.5	49.5	51.2	S.	4	.08	....	Stratus ...	2-4	Cirrus	1-4	W.	....	....	....	Cloudy.
4...		27.100	65.5	61	27.001	61	53	37.5	0	0	0	....	0	0	Cirrus	3-4	N.W.	....	....	....	Cloudy.
Station 1...	7 0	23.720	59	44	23.664	44	39	60	N. W.	30	4.50	....	Hazy	....	Stratus ...	4-4	N.W.	....	....	....	Cloudy.
2...		24.409	59	48	24.370	48	42	56.3	W.	30	4.50	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		25.892	65	55.5	25.818	55.5	47.5	50.2	S. W.	8	.32	....	Stratus ...	3-4	Cirrus	1-4	W.	....	....	....	Cloudy.
4...		27.100	64.5	59.5	27.003	60	51.5	51.9	S. W.	3	.04	....	0	0	Cirrus	3-4	N.W.	....	....	....	Cloudy.
Station 1...	8 0	23.750	65	44	23.678	44	39	60	N. W.	34	5.78	....	Hazy	....	Stratus ...	4-4	N.W.	....	....	....	Cloudy.
2...		24.399	53	48	24.373	48	42	56.3	W.	30	4.50	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		25.883	63	54.5	25.814	54.5	47.5	55.2	S.	5	.12	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
4...		27.092	63.5	57	26.998	57.5	49.5	52.5	S.	2	.02	....	0	0	Cirrus	3-4	N.W.	....	....	....	Cloudy.
Station 1...	9 0	23.762	74	44	23.671	44	40	67	N. W.	40	8.00	....	Hazy	....	Stratus ...	4-4	N.W.	....	....	....	Cloudy.
2...		24.399	52	48	24.375	48	42	56.3	W.	31	4.80	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		25.883	63	54.5	25.814	54.5	48	58.7	S.	2	.02	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
4...		27.078	61	55	26.990	56	49	56.9	S. E.	3	.04	....	0	0	Cirrus	3-4	....	....	....	....	Cloudy.
Station 1...	10 0	23.741	74	44	23.650	44	39	60	N. W.	42	8.82	....	Hazy	....	Stratus ...	4-4	N.W.	....	....	....	Cloudy.
2...		24.371	56	48	24.339	48	41.5	52.8	W.	37	6.84	....	Nimbus...	4-4	Hidden ...	....	....	9.55 p.m.	....	....	Light rain.
3...		25.870	62	54.5	25.803	54.5	47.5	55.2	W.	5	.12	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Threatening.
4...		27.065	61	54.5	26.977	55	48.5	59.0	S. W.	4	.08	....	0	0	Cirrus	3-4	W.	....	....	....	Cloudy.
Station 1...	11 22	23.689	69	44	23.608	44	39	60	N. W.	48	11.52	....	Hazy	....	Stratus ...	2-4	N.W.	....	....	....	Fair.
2...		24.368	62	48	24.323	48	42	56.3	W.	35	6.12	....	Nimbus...	4-4	Hidden ...	....	....	....	....	.02	Light rain.
3...		25.858	65	55.5	25.784	55.5	47.5	50.2	W.	6	.18	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Threatening.
4...		27.045	60	53.5	26.959	54.5	48.5	61.6	S.	4	.08	....	0	0	Cirrus	3-4	W.	....	....	....	Cloudy.
Station 1...	12 0 mid-night.	23.682	69	44	23.601	44	39	60	N. W.	50	12.50	...	Hazy	....	Stratus ...	2-4	N.W.	....	....	....	Fair.
2...		24.358	59	48	24.319	48	43	63.1	W.	32	5.12	500	Nimbus...	2-4	0	0	....	....	....	....	Light rain.
3...		25.842	64	56	25.771	56	48.5	53.6	W.	5	.12	122	Stratus ...	4-4	Hidden ...	....	....	11.30 p.m.	....	....	Cloudy.
4...		27.038	60	56	26.952	57	50	57.7	S. W.	4	.08	....	Stratus ...	1-4	Cirrus	2-4	W.	....	....	....	Cloudy.

Meteorological record for June 19, 1873.

Station 1...	*a. m.* 1 0	23.700	68	43	23.621	43	40	75	N. W.	56	15.68	....	Nimbus...	4-4	Hidden ...	....	....	12.40 a. m	....	....	Light rain.
3...		24.360	58.5	47	24.322	47	43.5	73.5	N. W.	25	3.12	....	Nimbus ...	4-4	Hidden ...	....	....	1.00 a. m	12.30a.m.	....	Light rain.
3 ..		25.850	66	54.5	25.774	54.5	48.5	61.3	S. W.	5	.12	....	Nimbus...	4-4	Hidden ...	....	....	....	....	....	Light rain.
4...		27.030	60	59	26.944	60	51	49.3	S. W.	4	.08	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.

Meteorological record for June 19, 1873—Continued.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		
Station 1...	*a. m.* 2 0	23.678	68	43	23.599	43	41	83	N. W.	48	11.52	....	Nimbus...	4-4	Hidden ...	......	......	......	......	......	Light rain.
2...		24.370	70.5	46	24.306	46	43.5	80.5	W.	36	6.48	....	Nimbus...	4-4	Hidden ...	......	......	......	......	......	Light rain.
3...		25.840	66	53.5	25.764	53.5	48	64.0	N. W.	2	.02	....	Stratus ...	4-4	Hidden ...	......	......	......	1.45 a. m.	......	Cloudy.
4...		27.005	60	55	26.919	55.5	52	77.6	N.	2	.02	....	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Cloudy.
Station 1...	3 0	23.692	68	43	23.613	43	41	83	N. W.	40	8.00	....	Nimbus...	4-4	Hidden ...	......	......	......	......	......	Heavy rain.
2...		24.358	63.5	46	24.309	46	44	84.3	W.	31	4.80	....	Stratus ...	4-4	Hidden ...	......	......	......	2.10 a. m.	......	Threatening.
3...		25.840	68	52.5	25.759	52.5	48	69.6	N. W.	5	.12	....	Nimbus...	4-4	Hidden ...	......	......	2.30 a. m.	......	......	Light rain.
4...		27.000	60	54.5	26.914	55	51	74.3	N. W.	4	.08	....	Nimbus...	4-4	Hidden ...	......	......	2.50 a. m.	......	......	Light rain.
Station 1...	4 0	23.662	68	42	23.583	42	41	91	N. W.	42	8.82	....	Nimbus...	4-4	Hidden ...	......	......	......	......	......	Light rain.
2...		24.330	60	41.5	24.289	44.5	44	95.9	W.	32	5.12	....	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Threatening.
3...		25.830	67	50.5	25.752	50.5	49	89.3	N. W.	6	.18	....	Nimbus...	4-4	Hidden ...	......	......	......	......	......	Light rain.
4...		27.010	60	54	26.924	55	52.5	83.7	N.	4	.08	....	Nimbus...	4-4	Hidden ...	......	......	......	......	......	Light rain.
Station 1...	5 0	23.650	67	42	23.573	42	41	91	N. W.	48	11.52	....	Stratus ...	4-4	Hidden ...	......	......	......	4.15 a. m.	......	Cloudy.
2...		24.367	69	45.5	24.306	45.5	44	88.1	W.	29	4.20	....	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Cloudy.
3...		25.838	68	52	25.757	52	49	79.4	N. W.	5	.12	....	Stratus ...	4-4	Hidden ...	......	......	......	4.15 a. m.	......	Cloudy.
4...		27.015	59	53	26.931	54	51.5	82.4	N. W.	4	.08	....	Stratus ...	4-4	Hidden ...	......	......	......	4.15 a. m.	......	Cloudy.
Station 1...	6 0	23.630	64	43	23.560	43	41	83	N. W.	46	10.58	....	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Cloudy.
2...		24.354	65.5	47	24.301	47	45	84.7	W.	38	7.22	....	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Cloudy.
3...		25.848	68	53.5	25.767	53.5	48.5	66.7	N. W.	1	.01	....	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Cloudy.
4...		27.018	59	56	26.934	56	54	74.7	N. E.	4	.08	....	Hazy	....	Cumulus..	4-4	N. W.	......	......	......	Cloudy.
Station 1...	7 0	23.630	61	44	23.567	44	43	92	N. W.	40	8.00	....	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Cloudy.
2...		24.367	63.5	47	24.318	47	46.5	96.1	W.	36	6.48	....	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Cloudy.
3...		25.860	70	55	25.775	55	51	74.3	N. W.	2	.02	....	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Cloudy.
4...		27.043	60	58	26.957	58.5	55	78.8	N. W.	2	.02	....	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Cloudy.
Station 1...	7 57	23.655	61	45	23.591	45	44	92	N. W.	24	2.88	....	Stratus ...	4-4	Hidden ...	......	......	......	......	.17	Cloudy.
2...		24.390	65.5	48	24.337	48	47	92.5	W.	40	8.00	....	Stratus ...	4-4	Hidden ...	......	......	......	......	.01	Cloudy.
3...		25.862	68.5	56	25.780	56	52.5	77.6	N. W.	6	.18	....	Stratus ...	4-4	Hidden ...	......	......	......	......	.02	Cloudy.
4...		27.058	61	63	26.970	63	57	67.0	N. W.	2	.02	....	Stratus ...	4-4	Hidden ...	......	......	......	......	.01	Cloudy—hazy.
Station 1...	9 0	23.713	70	45	23.630	45	45	100	N. W.	20	2.00	....	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Cloudy.
2...		24.393	66	49	24.339	48.5	47.5	92.5	N. W.	30	4.50	....	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Cloudy.
3...		25.860	67	57	25.782	57	53.5	75.2	N. W.	6	.18	....	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Cloudy.
4...		27.060	63	64	26.967	64	58	67.5	N. W.	2	.02	....	Stratus ...	3-4	Hidden ...	......	......	......	......	......	Cloudy—hazy.
Station 1...	10 0	23.750	67	46	23.673	46	45	92	N. W.	15	1.12	....	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Cloudy.
2...		24.405	63	50	24.357	50	48.5	89.1	N. W.	23	2.64	....	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Cloudy.
3...		25.858	65	58	25.781	58	54.5	78.4	N. W.	6	.18	....	Stratus ...	3-4	Cumulus..	1-4	N. W.	......	......	......	Cloudy.
4...		27.060	65	67	26.962	67	59.5	61.8	N. W.	6	.18	....	Stratus ...	3-4	Hidden ...	......	......	......	......	......	Cloudy—hazy.
Station 1...	11 0	23.770	70	50	23.689	49	49	100	N. W.	20	2.00	....	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Cloudy.
2...		24.415	63	54	24.367	54	51.5	83.4	W.	24	2.88	....	Stratus ...	4-4	Hidden ...	......	......	......	......	......	Cloudy.
3...		25.873	64.5	63	25.800	63	58	72.3	N. W.	7	.24	....	Stratus ...	3-4	Cumulus..	1-4	N. W.	......	......	......	Cloudy.

Station 1...	12 m.	23.770	71	50	23.685	50	49	93	N. W.	19	1.80		Stratus	4-4	Hidden						Cloudy.
2...		24.420	64	56	24.370	55.5	53.5	87.0	N. W.	31	4.80		Stratus	4-4	Hidden						Cloudy.
3...		25.880	65.5	66	25.805	66	59.5	65.8	N. W.	5	.12		Stratus	2-4	Cumulus	2-4	N. W.				Cloudy.
4...		27.081	70	74	26.971	74	63.5	53.1	W.	6	.18	92	Stratus	3-4	Hazy						Cloudy.
	p. m.																				
Station 1...	1 0	23.785	68	50	23.698	50	50	100	N. W.	24	2.88		Stratus	4-4	Hidden						Cloudy.
2...		24.432	62	55	24.387	54.5	53	90.1	N. W.	19	1.80		Stratus	4-4	Hidden						Cloudy.
3...		25.890	70.5	64	25.804	64	59	72.7	N. W.	4	.08		Stratus	3-4	Cumulus	1-4	N. W.				Cloudy.
4...		27.082	71	73	26.970	73	64	58.8	W.	4	.08		Stratus	4-4	Hidden						Cloudy—hazy.
Station 1...	2 0	23.800	70	51	23.717	51	51	100	N. W.	20	2.00		Stratus	4-4	Hidden						Cloudy.
2...		24.448	65	55.5	24.396	55.5	54	90.2	W.	21	2.20		Stratus	4-4	Hidden						Threatening.
3...		25.900	73.5	64	25.807	64	59	72.7	N. W.	6	.18		Stratus	4-4	Hidden						Cloudy.
4...		27.088	71.5	71	26.975	71	62.5	59.3	W.	6	.18		Stratus	4-4	Hidden						Cloudy.
Station 1...	3 0	23.785	72	51	23.698	51	51	100	N. W.	15	1.12		Nimbus	4-4	Hidden			2.22 p. m.			Heavy rain.
2...		24.447	63	53.5	24.399	53.5	53.5	100	W.	22	2.42		Nimbus	4-4	Hidden			2.24 p. m.			Light rain.
3...		25.888	65	59	25.814	59	59	100	0	0	0		Nimbus	4-4	Hidden			2.30 p. m.			Light rain.
4...		27.112	72	64	26.997	65	62	83.6	N. W.	4	.08		Nimbus	4-4	Hidden			2.25 p. m.			Light rain.
Station 1...	4 0	23.760	72	52	23.673	52	51	93	N. W.	30	4.50		Stratus	4-4	Hidden				3.17 p. m.		Fair.
2...		24.410	62	56	24.365	56.5	56	96.8	W.	22	2.42		Stratus	1-4	Cirrus	2-4	N. W.		3.20 p. m.		Clearing.
3...		25.859	66.5	64.5	25.782	64.5	63	91.6	S. E.	5	.12		0	0	Cirro-cum.	3-4	N. W.		3.30 p. m.		Fair.
4...		27.085	74	65	26.965	66	63.5	86.5	N. E.	4	.08		0	0	Cirrus	2-4	N.		3.29 p. m.		Fair.
Station 1...	4 57	23.780	73	53	23.691	52	51	93	N. W.	30	4.50		Stratus	4-4	Hidden					.17	Cloudy.
2...		24.410	63	58	24.362	57	56	93.6	W.	28	3.92		Stratus	3-4	Cirrus	1-4	W.			.23	Cloudy.
3...		25.868	69	67	25.785	67	63	79.0	S.W.	4	.08		Stratus	2-4	Cumulus	2-4	W.			.24	Cloudy.
4...		27.075	73.5	68.5	26.957	68.5	66	87.0	N. E.	2	.02		0	0	Cirrus	3-4	N. W.			.20	Cloudy.
Station 1...	6 0	23.785	72	53	23.698	53	52	93	N. W.	24	2.88		Cumulus	2-4	Cirrus	1-4	N. W.				Fair.
2...		24.419	64	58	24.369	58	56	87.6	W.	24	2.88		Stratus	3-4	Cirrus	1-4					Cloudy.
3...		25.873	75.5	66	25.775	66	62.5	81.1	S.	7	.24		Stratus	2-4	Cirrus	1-4	W.				Cloudy.
4...		27.062	74	70	26.942	71	65	70.8	N. E.	2	.02		Hazy		Cirrus	3-4					Cloudy—hazy.
Station 1...	7 0	23.778	68	52	23.699	52	51	93	W.	30	4.50		Hazy		Cumulus	3-4	W.				Fair.
2...		24.400	62	57	24.355	57	55	87.4	W.	23	2.64		Stratus	2-4	Cirrus	1-4	N. W.				Fair.
3...		25.870	73	66.5	25.778	66.5	60.5	68.5	W.	6	.18		Stratus	1-4	Cirro-cum.	2-4	W.				Fair.
4...		27.052	72.5	66	26.936	66.5	63	86.4	N. W.	2	.02		Stratus	2-4	0	0					Fair.
Station 1...	8 0	23.755	67	52	23.678	52	51	93	W.	36	6.48		Hazy		Cumulus	2-4	W.				Fair.
2...		24.399	63	57	24.351	57	54	81.2	W.	43	9.24		Stratus	1-4	Cirrus	1-4	W.				Fair.
3...		25.860	70	64	25.775	64	59.5	75.1	S.	11	.60		Stratus	1-4	Cirrus	1-4	W.				Fair.
4...		27.038	72	69	26.923	70	62	61.3	W.	4	.08		0	0	Cirrus	3-4	N. W.				Fair.
Station 1...	9 0	23.750	66	52	23.676	52	51	93	W.	36	6.48		Hazy		Cumulus	2-4	W.				Fair.
2...		24.378	62	57	24.333	57	54	81.2	W.	37	6.84		Stratus	1-4	Cirrus	1-4	W.				Fair.
3...		25.848	68	64	25.765	64	59.5	75.1	W.	12	.72		Stratus	1-4	0	0					Clear.
4...		27.040	72	70	26.925	71	63	61.8	E.	4	.08		Stratus	1-8	0	0					Clear.
Station 1...	10 0	23.715	72	54	23.628	54	53	93	W.	40	8.00		Hazy		Stratus	4-4	W.				Cloudy.
2...		24.350	62	57	24.305	57	55	87.4	W.	37	6.84		Stratus	3-4	0	0					Fair.
3...		25.832	66	63.5	25.756	63.5	59	75.1	W.	10	.50		Stratus	1-4	0	0					Fair.
4...		27.022	72	69	26.907	70	63	65.8	S.	6	.18		Stratus	1-4	0	0					Clear.
Station 1...	11 22	23.680	72	53	23.594	53	52	93	W.	41	8.40		Hazy		Stratus	4-4	W.				Cloudy.
2...		24.330	62	56	24.285	56	54	87.6	W.	53	14.04		Stratus	3-4	0	0					Fair.
3...		25.810	65	63	25.736	63	59	77.6	S.W.	11	.60		Stratus	1-4	0	0					Fair.
4...		27.000	71	66	25.886	67	60	64.2	S. E.	4	.08		Stratus	1-4	0	0					Clear.

Meteorogical record for June 19, 1873—Continued.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		
Station 1...	12 0 midnight.	23. 655	69	53	23. 574	53	53	100	W.	48	11. 52	....	Hazy	....	Cumulus..	3-4	W.	....	....	....	Cloudy.
2...		24. 299	62	57	24. 254	57	54	81. 2	W.	49	12. 00	760	Stratus ...	3-4	0	0	....	....	....	....	Fair.
3...		25. 775	64. 5	64	25. 702	64	59	72. 7	W.	13	. 84	143	Stratus ...	3-4	Hidden ...	....	....	....	....	....	Cloudy.
4...		26. 928	70. 5	67	26. 871	68	61	64. 7	E.	3	. 04	....	Stratus ...	2-4	0	0	....	....	....	....	Fair.

Meteorological record for June 20, 1873.

Place of observation.	Time of observation.	Barometer.	Attached.	Exposed.	Corrected barometer.	Dry bulb.	Wet bulb.	Relative humidity.	Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.	Amount of rain or melted snow.	Remarks.
Station 1...	a. m. 1 0	23. 600	68	53	23. 521	53	52	93	W.	50	12. 50	....	Hazy	....	Cumulus..	2-4	W.	....	....	....	Cloudy.
2...		24. 257	63	56. 5	24. 209	56	54	87. 2	W.	56	15. 68	....	Stratus ...	2-4	Cirrus	2-4	N. W.	....	....	....	Cloudy.
3...		25. 750	69. 5	63. 5	25. 667	63. 5	58. 5	72. 3	W.	13	. 84	....	Stratus ...	2-4	0	0	....	....	....	....	Fair.
4...		27. 020	70. 5	69	26. 909	69. 5	62	63. 2	W.	6	. 18	....	Stratus ...	1-4	Cirrus	1-4	....	....	....	....	Fair.
Station 1...	2 0	23. 590	66	53	23. 516	53	53	100	N. W.	60	18. 00	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
2...		24. 219	62	56	24. 174	56	54. 4	90. 3	W.	50	12. 50	...	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		25. 725	70. 5	63. 5	25. 640	63. 5	59	75. 1	W.	13	. 84	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
4...		26. 900	71	68. 5	26. 788	69	61	60. 7	W.	8	. 32	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Station 1...	3 0	23. 600	65	52	23. 528	52	52	100	N. W.	36	6. 48	....	Nimbus...	4-4	Hidden ...	....	....	2. 50 a. m	....	....	Heavy rain.
2...		24. 268	62	55	24. 223	55	55	100	W.	32	5. 12	....	Nimbus...	4-4	Hidden ...	....	....	2. 50 a. m	....	....	Light rain.
3...		25. 720	70. 5	59. 5	25. 634	59. 5	59. 5	100	N. W.	13	. 84	....	Nimbus...	4-4	Hidden ...	....	....	2. 54 a. m	....	....	Light rain.
4...		26. 900	71	66	26. 788	67	63	79. 0	W.	10	. 50	....	Nimbus...	4-4	Hidden ...	...	....	2. 50 a. m	....	....	Rain.
Station 1...	4 0	23. 535	63	53	23. 468	53	53	100	N. W.	36	6. 48	....	Stratus ..	3-4	Hidden ...	....	....	....	3. 45 a. m	....	Clearing up.
2...		24. 248	60. 5	54. 5	24. 206	54. 5	54. 5	100	W.	46	10. 58	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		25. 745	68	50	25. 665	50	50	100	N. W.	12	. 72	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
4...		26. 940	70	56	26. 830	57	55	87. 4	N. E.	4	. 08	....	Stratus ...	4-4	Hidden ...	....	....	....	3. 30 a. m	....	Cloudy.
Station 1...	5 0	23. 540	63	53	23. 473	53	52	93	N. W.	38	7. 22	....	Hazy	....	Cumulus..	3-4	N. W.	....	3. 54 a. m	....	Fair.
2...		24. 255	60. 5	46	24. 213	46	44	84. 3	W.	42	8. 82	....	Stratus ...	2-4	Cirrus	2-4	N. W.	....	4. 02 a. m	....	Cloudy.
3...		25. 738	69	50. 5	25. 656	50. 5	49. 5	92. 7	N. W.	5	. 12	....	Stratus ...	2-4	Cumulus..	1-4	N. W.	....	....	....	Cloudy.
4...		26. 931	67	55	26. 828	56	54. 5	90. 3	N. E.	4	. 08	....	0	0	Cumulus..	3-4	N. W.	....	....	....	Fair.
Station 1...	6 0	23. 560	68	50	23. 482	50	49	93	N. W.	30	4. 50	....	Hazy	....	Cumulus..	1-8	N. W.	....	....	....	Fair.
2...		24. 250	65. 5	48	24. 197	47. 5	45	81. 1	W.	41	8. 40	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
3...		25. 725	69. 5	51	25. 642	51	48. 5	82. 2	N. W.	5	. 12	....	0	0	0	0	....	....	....	....	Clear.
4...		26. 910	64	53. 5	26. 834	54	52	86. 7	E.	4	. 08	....	0	0	Cumulus..	1-8	....	....	....	....	Clear.
Station 1...	7 0	23. 570	74	45	23. 480	45	43	84	N. W.	24	2. 88	....	Hazy	....	Cumulus..	1-4	N. W.	....	....	....	Fair.
2...		24. 220	57. 5	47. 5	24. 185	47. 5	45. 5	84. 8	W.	41	8. 40	....	0	0	0	0	....	....	....	....	Clear.
3...		25. 730	69. 5	52. 5	25. 647	52. 5	50	82. 9	N. W.	2	. 02	....	0	0	0	0	....	....	....	....	Clear.
4...		26. 900	63	58	26. 816	58. 5	55. 5	81. 7	0	0	0	....	0	0	Cumulus..	1-8	....	....	....	....	Clear.

																				.11	Cloudy.
2...	7 57	24.210	53	47	24.184	47	47	100	W.	41	8.40	....	Stratus ...	4-4	Hidden ...	....	....	....	....	.21	Cloudy.
3...		25.735	68	53.5	25.655	53.5	52	89.9	N. W.	7	.24	....	0	0	Cumulus..	2-4	N. W.	....	....	.20	Fair.
4...		26.925	64	60.5	26.829	61	56.5	74.1	W.	8	.32	....	Hazy	....	Cumulus..	1-4	N. W.	....	....	.25	Fair.
Station 1...	9 0	23.575	74	45	23.485	45	44	92	N. W.	30	4.50	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
2...		24.202	54	48.5	24.174	48.5	47.5	92.5	W.	37	6.84	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		25.720	65	56	25.647	56	54	87.2	W.	11	.60	....	Smoky	....	Cumulus..	1-4	W.	....	....	....	Fair.
4...		26.921	65	63	26.823	64	58	67.5	N. W.	8	.32	....	Stratus ...	2-4	0	0	....	....	....	....	Fair.
Station 1...	10 0	23.550	72	45	23.464	45	44	92	N. W.	41	8.40	....	Hazy	....	Cumulus..	3-4	N. W.	....	....	....	Fair.
2...		24.215	54	50.5	24.187	50	47	78.6	N. W.	44	9.62	....	Stratus ...	1-4	Cumulus..	2-4	N. W.	....	....	....	Fair.
3...		25.718	64	57	25.647	57	52	69.2	N. W.	11	.60	....	Smoky	....	Cumulus .	2-4	N. W.	....	....	....	Fair.
4...		26.929	66	64	26.829	65	57.5	60.6	N. W.	12	.72	....	Stratus ...	2-4	0	0	....	....	....	....	Fair.
Station 1...	11 0	23.570	70	45	23.479	45	44	92	N. W.	48	11.52	....	Hazy	....	Cumulus..	3-4	N. W.	....	....	....	Fair.
2...		24.223	55	49.5	24.193	49	44.5	67.3	W.	50	12.50	....	Hazy	....	Cumulus..	2-4	N. W.	....	....	....	Fair.
3...		25.740	64.5	57.5	25.668	57.5	50.5	57.7	N. W.	17	1.44	....	Smoky	....	Cumulus..	2-4	N. W.	....	....	....	Fair.
4...		26.943	67	66	26.840	66.5	55	43.2	N. W.	16	1.28	....	Stratus ...	1-4	Cumulus..	1-4	N. W.	....	....	....	Fair.
Station 1...	12 m.	23.580	69	45	23.500	45	44	92	N. W.	46	10.58	....	Hazy	....	Cumulus..	2-4	N. W.	....	....	....	Fair.
2...		24.228	55	52.5	24.198	52	45	53.5	N. W.	48	11.52	....	Hazy	....	Cumulus..	2-4	N. W.	....	....	....	Fair.
3...		25.730	65.5	60	25.656	60	51	49.3	N. W.	13	.84	....	Smoky	....	Cumulus..	2-4	N. W.	....	....	....	Fair.
4...		26.939	68	68	26.834	69	56	39.1	N. W.	16	1.28	133	Stratus ...	1-4	0	0	....	....	....	....	Fair.
	p. m.																				
Station 1...	1 0	23.590	67	45	23.514	45	44	92	N. W.	24	2.88	....	Hazy	....	Cumulus..	2-4	N. W.	....	....	....	Fair.
2...		24.232	60	54	24.191	53.5	46.5	54.4	N. W.	55	15.12	....	Hazy	....	Cumulus..	2-4	N. W.	....	....	....	Fair.
3...		25.738	67.5	61	25.660	61	51.5	47.2	N. W.	14	.98	....	Smoky	....	Cumulus..	3-4	N. W.	....	....	....	Fair.
4...		26.944	72	69.5	26.829	70	56	35.9	N. W.	16	1.28	....	0	0	Cumulus..	2-4	N. W.	....	....	....	Fair.
Station 1...	2 0	23.578	63	47	23.514	47	46	92	N. W.	36	6.48	....	Hazy	....	Cumulus..	2-4	N. W.	....	....	....	Fair.
2...		24.245	60	53	24.204	52.5	45.5	53.9	N. W.	53	14.04	....	Hazy	....	Cumulus..	3-4	N. W.	....	....	....	Fair.
3...		25.730	67	60	25.653	60	51	49.3	N. W.	13	.84	....	Smoky	....	Cumulus..	2-4	N. W.	....	....	....	Fair.
4...		26.938	71	69	26.826	69	57	43.2	N. W.	14	.92	....	0	0	Cumulus..	2-4	N. W.	....	....	....	Fair.
Station 1...	3 0	23.580	62	49	23.515	19	48	83	N. W.	30	4.50	....	Hazy	....	Cumulus..	3-4	N. W.	....	....	....	Fair.
2...		24.235	57	53	24.201	52.5	46	57.0	N. W.	42	8.82	....	Hazy	....	Cumulus..	3-4	N. W.	....	....	....	Fair.
3...		25.731	64.5	60	25.660	60	51	49.3	N. W.	6	.18	....	Smoky	....	Cumulus..	3-4	N. W.	....	....	....	Fair.
4...		26.947	71	67	26.835	67.5	56	44.1	N. W.	14	.98	....	Stratus ...	2-4	Cumulus..	1-4	N. W.	....	....	....	Cloudy.
Station 1...	4 0	23.570	60	49	23.509	49	45	74	N. W.	38	7.22	....	Hazy	....	Cumulus..	2-4	N. W.	....	....	....	Fair.
2...		24.235	57	54	24.201	53.5	46.5	54.4	N. W.	43	9.24	....	Stratus ...	1-4	Cumulus..	2-4	N. W.	....	....	....	Fair.
3...		25.740	65	61	25.667	61	52	50.2	N. W.	7	.24	....	Smoky	....	Cumulus..	2-4	N. W.	....	....	....	Fair.
4...		26.960	73	68	26.843	68	57	46.7	N. W.	16	1.28	....	0	0	Cumulus..	2-4	N. W.	....	....	....	Fair.
Station 1...	4 57	23.540	59	49	23.481	49	48	93	N. W.	36	6.48	....	Hazy	....	Cumulus..	3-4	N. W.	....	....	....	Fair.
2...		24.261	57	49	24.227	48	45	77.7	N. W.	48	11.52	....	Stratus ...	2-4	Cumulus..	1-4	N. W.	....	....	....	Fair.
3...		25.751	65	56	25.678	56	50	62.7	N. W.	13	.84	....	Stratus ...	1-4	Cumulus..	2-4	N. W.	....	....	....	Fair.
4...		26.975	71	63.5	26.863	64	55	52.7	N. W.	12	.72	....	Stratus ...	1-4	Cumulus..	2-4	N. W.	....	....	....	Fair.
Station 1...	6 0	23.570	56	44	23.517	44	43	92	N. W.	50	12.50	....	Hazy	....	Cumulus..	3-4	N. W.	....	....	....	Fair.
2...		24.286	69	50	24.219	49	43	57.2	N. W.	53	14.04	....	0	0	Cumulus..	2-4	N. W.	....	....	....	Fair.
3...		25.766	64	56.5	25.693	56.5	47	53.3	N. W.	14	.98	....	0	0	Cumulus..	2-4	N. W.	....	....	....	Fair.
4...		26.988	69.5	62	26.880	62	52	53.9	W.	10	.50	....	0	0	Cumulus..	2-4	N. W.	....	....	....	Fair.
Station 1...	7 0	23.585	55	43	23.534	43	42	91	N. W.	40	8.00	....	Hazy	....	Cumulus..	4-4	N. W.	....	....	....	Fair.
2...		24.299	59	45	24.260	45	33	79.7	N. W.	38	7.22	....	Stratus ...	2-4	Cumulus..	1-4	N. W.	....	....	....	Fair.
3...		25.790	70	53	25.705	53	47	60.6	N. W.	10	.50	....	Stratus ...	1-4	Cumulus..	1-4	N. W.	....	....	....	Fair.
4...		27.005	67	58	26.992	59	50	48.4	N. W.	10	.50	....	0	0	Cumulus..	2-4	N. W.	....	....	....	Fair.

Meteorological record for June 20, 1873—Continued.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Common'd.	Ended.		
	p. m.																				
Station 1	8 0	23. 595	55	42	23. 544	42	41	91	N. W.	38	7. 22	....	Stratus ...	4·4	Hidden ...	....	......	......	......	......	Cloudy.
2		24. 310	56	43	24. 278	43	41	83. 3	N. W.	28	3. 92	....	Stratus ...	4·4	Hidden ...	....	......	......	......	......	Cloudy.
3		25. 805	66. 5	50. 5	25. 728	50. 5	46. 5	71. 6	N. W.	10	. 50	....	Stratus ...	1·4	Cumulus..	1·4	N. W.	......	......	......	Fair.
4		27. 012	64	56	26. 916	57	50	57. 7	W.	12	. 72	....	0	0	Cumulus..	2·4	N. W.	......	......	......	Fair.
Station 1	9 0	23. 590	55	40	23. 539	40	39	91	N. W.	40	8. 00	....	Stratus ...	4·4	Hidden ...	....	......	......	......	......	Cloudy.
2		24. 334	57	42	24. 290	42	40	82. 9	N. W.	20	2. 00	....	Stratus ...	4·4	Hidden ...	....	......	......	......	......	Cloudy.
3		25. 830	64	49	25. 758	49	45	71. 0	N.	7	. 24	....	Stratus ...	2·4	0	0	......	......	......	......	Fair.
4		27. 038	64. 5	55	26. 941	56	49	56. 9	W.	6	. 18	....	0	0	Cumulus..	1·4	N. W.	......	......	......	Fair.
Station 1	10 0	23. 540	54	38	23. 491	38	37	90	N. W.	53	14. 04	....	Stratus ...	4·4	Hidden ...	....	......	......	......	......	Cloudy.
2		24. 340	63	39	24 292	39	38	90. 7	N. W.	29	4. 20	....	Stratus ...	2·4	0	0	......	......	......	......	Fair.
3		25. 822	63. 5	46. 5	25. 751	46. 5	43	73. 2	N. W.	10	. 50	....	Stratus ...	2·4	0	0	......	......	......	......	Clear.
4		27. 035	64	53	26. 939	53. 5	47	57. 9	W.	4	. 08	....	Stratus ...	1·8	0	0	......	......	......	......	Clear.
Station 1	11 22	23. 562	52	36	23. 518	36	35	90	N. W.	62	19. 22	....	Stratus ...	4·4	Hidden ...	....	......	......	......	......	Cloudy.
2		24. 330	51	36	24. 299	36	36	100	N. W	17	1. 44	....	Stratus ...	4·4	Hidden ...	....	......	......	......	......	Cloudy.
3		25. 821	62	43. 5	25. 751	43. 5	39	63. 2	N. W.	11	. 60	....	Stratus .	1·4	0	0	......	......	......	......	Clear.
4		27. 055	62	49	26. 964	50	45	64. 6	N. W.	6	. 18	....	Stratus ...	1·4	0	0	......	......	......	......	Fair.
Station 1	12 0 mid-night.	23. 550	60	34	23. 469	34	33	90	N. W.	60	18. 00	....	Stratus ...	4·4	Hidden ...	....	......	......	......	......	Cloudy.
2		24. 314	51	34	24. 293	34	34	100	N. W.	20	2. 00	934	Stratus ...	3·4	0	0	......	......	......	......	Fair.
3		25. 820	60	42	25. 758	42	39	74. 4	N. W.	10	. 50	252	Stratus ...	2·4	0	0	......	......	......	......	Fair.
4		27. 060	61	48	26. 972	48. 5	43. 5	63. 4	S. W.	6	. 18	....	Stratus ...	2·4	0	0	......	......	......	......	Fair.

Meteorological record for June 21, 1873.

Place of observation.	Time of observation.	Barometer.	Attached.	Exposed.	Corrected barometer.	Dry bulb.	Wet bulb.	Relative humidity.	Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Common'd.	Ended.	Amount of rain or melted snow.	Remarks.
	a. m.																				
Station 1	1 0	23. 577	70	33	23. 493	33	32	89	N. W.	66	21. 78	....	Stratus ...	4·4	Hidden ...	....	......	......	......	......	Cloudy.
2		24. 310	53. 5	33	24. 283	32. 5	32	94. 5	N.	30	4. 50	....	Stratus ...	1·4	0	0	......	......	......	......	Clear.
3		25. 820	60	40. 5	25. 758	40. 5	37. 5	97. 5	N.	10	. 50	....	0	0	0	0	......	......	......	......	Clear.
4		27. 065	60	45. 5	26. 979	46	42	69. 1	0	0	0	....	0	0	Cirrus	1·8	......	......	......	......	Clear.
Station 1	2 0	23. 550	70	32	23. 468	33	31	89	N. W.	62	19. 22	....	Stratus ...	1·4	0	0	......	......	......	......	Fair.
2		24. 345	69	33. 5	24. 284	33. 5	32. 5	89. 4	N. W.	26	3. 38	....	Stratus ...	2·4	0	0	......	......	......	......	Fair.
3		25. 830	63. 5	40	25. 760	40	37	73. 2	N. W.	10	. 50	....	Stratus ...	1·4	0	0	......	......	......	......	Clear.
4		27. 045	58	45	26. 964	45	41. 5	72. 3	0	0	0	....	0	0	Cirrus	1·4	N.	......	......	......	Fair.

Station 1	8 0	23.550	70	31	23.468	31	30	89	N. W.	62	19.22		Stratus	4-4	Hidden						Cloudy
2		24.300	56	32.5	24.268	32	32	100	N. W.	36	6.48		Stratus	4-4	Hidden						Cloudy.
3		25.828	63	39	25.759	39	36.5	77	N. W.	8	.32		Stratus	1-4	0	0					Clear.
4		27.030	57	43	26.951	43.5	40	71.3	0	0	0		Stratus	2-4	0	0					Fair.
Station 1	4 0	23.580	70	30	23.496	30	29	89	N. W.	68	23.12		Stratus	4-4	Hidden						Cloudy.
2		24.297	51.5	32.5	24.275	32	32	100	N. W.	31	4.80		Stratus	4-4	Hidden						Cloudy.
3		25.830	63	38.5	25.761	38.5	36	76.8	N. W.	8	.32		Stratus	1-4	0	0					Clear.
4		27.000	55	44	26.986	45	42	76.2	N. W.	2	.02		Stratus	2-4	0	0					Fair.
Station 1	5 0	23.60	69	30	23.519	30	29	89	N. W.	56	15.68		Stratus	4-4	Hidden						Cloudy.
2		24.320	53.5	31.5	24.293	31	30.5	94.7	N. W.	23	2.64		Stratus	4-4	Hidden						Cloudy.
3		25.838	58	37	25.770	37	36	90.3	N. W.	6	.18		Stratus	2-4	0	0					Fair.
4		27.070	53	43	27.001	43	40	75.0	N. W.	4	.08		Stratus	1-4	0	0					Fair.
Station 1	6 0	23.605	65	31	23.533	31	30	89	N. W.	40	8.00		Stratus	4-4	Hidden						Cloudy.
2		24.328	53.5	32	24.301	31.5	31	94.8	N. W.	24	2.88		Stratus	4-4	Hidden						Cloudy.
3		25.845	57	37	25.790	37	36	90.3	N. W.	6	.18		Stratus	2-4	0	0					Fair.
4		27.080	53	43	26.961	43	40	75.0	N. W.	4	.08		Stratus	1-4	0	0					Fair.
Station 1	7 0	23.710	61	30	23.646	30	30	100	N. W.	24	2.88		Stratus	4-4	Hidden						Cloudy.
2		24.319	50.5	32.5	24.299	32.5	32	94.5	N. W.	31	4.80		Stratus	4-4	Hidden						Cloudy.
3		25.850	57	38	25.805	38	37	90.5	N.	6	.18		Stratus	1-4	Cumulus	1-4	N. W.				Fair.
4		27.082	52	47	27.015	48	42	56.3	N. W.	4	.03		Stratus	2-4	0	0					Fair.
Station 1	7 57	23.635	60	31	23.574	31	30	89	N. W.	16	1.28		Stratus	4-4	Hidden						Cloudy.
2		24.32	50.5	33.5	24.300	33.5	33	94.7	N. W.	29	4.20		Stratus	3-4	0	0					Cloudy.
3		25.843	55.5	42	25.791	42	38.5	70.2	N. W.	8	.32		Stratus	1-4	Cumulus	3-4	N. W.				Cloudy.
4		27.080	52	50	27.013	50	44	58.1	N. W.	8	.32		Stratus	3-4	0	0					Cloudy.
Station 1	9 0	23.645	55	31	23.594	31	30	89	N. W.	24	2.88		Stratus	4-4	Hidden						Cloudy.
2		24.329	56	36	24.297	35	34	89.8	N. W.	26	3.38		Stratus	4-4	Hidden						Cloudy.
3		25.839	58	43	25.781	43	40	75.0	N. W.	7	.24		0	0	Cumulus	3-4	N. W.				Cloudy.
4		27.075	54	51.5	27.003	52	46	59.8	N. W.	10	.50		Stratus	2-4	0	0					Fair.
Station 1	10 0	23.652	54	31	23.603	31	30	89	N. W.	10	.50		Stratus	4-4	Hidden						Cloudy.
2		24.339	56	37.5	24.307	37	35	80.7	N. W.	30	4.50		Stratus	4-4	Hidden						Cloudy.
3		25.845	58.5	44.5	25.786	44.5	41	72.0	N. W.	8	.32		Stratus	2-4	Cumulus	2-4	N. W.				Cloudy.
4		27.080	56	54	27.004	54	47	55.2	W.	10	.50		Stratus	3-4	0	0					Cloudy.
Station 1	11 0	23.630	60	35	23.569	35	35	100	N. W.	18	1.62		Stratus	4-4	Hidden						Cloudy.
2		24.319	53	36	24.293	36	35	90.0	N. W.	49	12.00		Stratus	4-4	Hidden						Cloudy.
3		25.850	59	44	25.790	44	41	75.6	N. W.	12	.72		Stratus	3-4	Cumulus	1-4	N. W.				Cloudy.
4		27.088	57	54	27.009	54	47	55.2	N. W.	10	.50		Stratus	4-4	Hidden						Cloudy.
Station 1	12 m.	23.655	65	35	23.583	35	34	90	N. W.	20	2.00		Stratus	4-4	Hidden						Cloudy.
2		24.320	55	37	24.290	37	36	90.3	N. W.	25	3.12		Stratus	4-4	Hidden						Cloudy.
3		25.835	61	47	25.771	47	42.5	66.0	N. W.	10	.50		Stratus	3-4	Cumulus	1-4	N. W.				Cloudy.
4		27.069	57	57	26.990	57	48.5	49.2	N. W.	12	.72	184	Stratus	4-4	Hidden						Threatening.
	p. m.																				
Station 1	1 0	23.615	64	36	23.545	36	35	90	N. W.	20	2.00		Nimbus	4-4	Hidden			12.30 p. m.			Light snow.
2		24.314	53	34	24.288	34	33	89.5	N. W.	37	6.84		Nimbus	4-4	Hidden			12.35 p. m.			Light rain.
3		25.845	62	39	25.778	39	39	100	N. W.	13	.84		Nimbus	4-4	Hidden			12.20 p. m.			Light rain.
4		27.088	55	47	27.014	47	47	100	N. W.	10	.50		Nimbus	4-4	Hidden			12.30 p. m.			Light rain.
Station 1	2 0	23.655	72	36	23.569	36	35	90	N. W.	24	2.88		Nimbus	4-4	Hidden						Light snow.
2		24.317	53.5	35.5	24.290	35	35	100	N. W.	40	8.60		Nimbus	4-4	Hidden						Light rain.
3		25.830	58	41	25.782	41	41	100	N. W.	11	.60		Nimbus	4-4	Hidden						Hail.
4		27.078	59	49	26.994	49	47.5	88.9	W.	8	.32		Nimbus	4-4	Hidden						Light rain.

Meteorological record for June 21, 1873—Continued.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks
			Attached.	Exposed.		Wet bulb.	Dry bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		
	p. m.																				
Station 1...	3 0	23.652	74	32	23.562	32	32	100	N. W.	20	2.00	....	Stratus ...	4-4	Hidden ...				2.25 p. m.		Cloudy.
2...		24.340	53	35.5	24.314	35	35	100	N. W.	30	4.50	....	Stratus ...	4-4	Hidden ...				2.20 p. m.		Cloudy.
3...		25.839	58	41	25.781	41	40	91.2	N. W.	10	.50	....	Stratus ...	4-4	Hidden ...				2.10 p. m.		Cloudy.
4...		27.090	56	50	27.014	50	48.5	89.1	W.	6	.18	....	Stratus ...	4-4	Hidden ...				2.20 p. m.		Cloudy.
Station 1...	4 0	23.690	69	34	23.610	34	33	90	N.	10	.50	....	Stratus ...	4-4	Hidden ...						Cloudy.
2...		24.370	52	35	24.346	35	34	89.8	N. W.	20	2.00	....	Stratus ...	4-4	Hidden ...						Cloudy.
3...		25.854	59	41	25.794	41	40	91.2	N. W.	10	.50	...	Stratus ...	3-4	Cumulus..	1-4	N. W.				Cloudy.
4...		27.110	59	51	27.026	51	48	79.0	N. W.	6	.18	....	Stratus ...	4-4	Hidden ...						Cloudy.
Station 1...	4 57	23.700	71	34	23.616	34	33	90	N.	16	1.28	....	Stratus ...	4-4	Hidden ...					.06	Cloudy.
2...		24.370	56	34.5	24.338	34	34	100	N. W.	19	1.80	....	Stratus ...	4-4	Hidden ...					.06	Cloudy.
3...		25.876	61	42	25.812	42	40	82.9	N. W.	7	.24	....	Stratus ...	4-4	Hidden ...					.10	Cloudy.
4...		27.120	57	49.5	27.041	50	45.5	67.9	W.	6	.18	....	Stratus ...	3-4	0	0				.15	Cloudy.
Station 1...	6 0	23.700	74	34	23.609	34	33	90	N.	12	.72	....	Stratus ...	4-4	Hidden ...						Cloudy.
2...		24.385	55	34.5	24.355	34	34	100	N. W.	20	2.00	....	Stratus ...	4-4	Hidden ...						Cloudy.
3...		25.887	59.5	41	25.820	41	39	82.4	N. W.	7	.24	....	Stratus ...	4-4	Hidden ...						Cloudy.
4...		27.135	57.5	48.5	27.055	49	45	71.0	N. W.	4	.08	....	Stratus ...	4-4	Hidden ...						Cloudy.
Station 1...	7 0	23.715	69	33	23.634	33	32	89	N.	14	.98	....	Stratus ...	4-4	Hidden ...						Cloudy.
2...		24.405	56	34.5	24.373	34	34	100	N. W.	24	2.88	....	Stratus ...	3-4	0	0					Fair.
3...		25.901	60	44.5	25.839	44.5	40	64.1	N.	7	.24	....	0	0	Cumulus..	2-4	N. W.				Fair.
4...		27.146	56	48	27.070	48	44.5	74	N.	4	.08	....	Stratus ...	2-4	0	0					Fair.
Station 1...	8 0	23.720	68	32	23.641	32	31	89	N.	6	.18	....	Stratus ...	4-4	Hidden ...						Cloudy.
2...		24.405	72	34	24.381	33.5	33.5	100	N.	20	4.20	....	Stratus ...	4-4	Hidden ...						Cloudy.
3...		25.915	59.5	40.5	25.854	40.5	39	86.6	N. W.	6	.18	....	Stratus ...	4-4	Hidden ...						Cloudy.
4...		27.159	56	47	27.083	47	43.5	73.4	N. W.	3	.04	....	Stratus ...	3-4	0	0					Cloudy.
Station 1...	9 0	23.725	67	32	23.648	32	31	89	N.	20	2.00	....	Stratus ...	4-4	Hidden ...						Cloudy.
2...		24.450	67	33.5	24.396	33.5	33	94.7	N.	20	2.00	....	Stratus ...	4-4	Hidden ...						Cloudy.
3...		25.938	60	40	25.876	40	38	82.0	N. W.	6	.18	....	Stratus ...	4-4	Hidden ...						Cloudy.
4...		27.185	60	44	27.099	45	42.5	80.0	N.	2	.02	....	Stratus ...	3-4	0	0					Cloudy.
Station 1...	10 0	23.734	65	32	23.661	32	31	89	N. W.	18	1.62	....	Stratus ...	4-4	Hidden ...						Cloudy.
2...		24.458	67	33.5	24.402	33	33	100	N. W.	16	1.28	....	Stratus ...	4-4	Hidden ...						Cloudy.
3...		25.930	54	40	25.882	40	38.5	86.4	N.	5	.12	....	Stratus ...	1-4	0	0					Clear.
4...		27.188	59.5	44.5	27.103	45.5	42.5	76.4	N.	1	.01	....	Stratus ...	1-4	0	0					Fair.
Station 1...	11 23	23.752	58	32	23.694	32	31	89	N. W.	14	.98	....	Stratus ...	4-4	Hidden ...						Cloudy.
2...		24.455	61	33	24.412	32.5	32	94.5	N.	13	.84	....	Stratus ...	3-4	0	0					Fair.
3...		25.935	54.5	39.5	25.886	39.5	37.5	81.8	N.	4	.08	....	0	0	0	0					Clear.
4...		27.198	55.5	40	27.123	41	39	82.4	N. W.	2	.02	....	Stratus ...	1-4	0	0					Fair.

Station 1...	12 0 mid-night.	23.760	56	32	23.706	32	31	89	N. W.	16	1.28	....	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Cloudy.
2...		24.450	61	32.5	24.407	32	31.5	94.7	N.	11	.60	640	Stratus ...	2-4	0	0	...	...	...	...	Fair.
3...		25.938	54	39	25.890	39	37	81.6	N.	6	.18	185	0	0	0	0	...	...	...	...	Clear.
4...		27.198	55	39	27.124	40	38	82.0	N. W.	2	.02	....	Stratus ...	1-4	0	0	...	...	...	...	Fair.

Meteorological record for June 22, 1873.

	a. m.																				
Station 1...	1 0	23.760	53	32	23.716	32	31	89	N. W.	12	.72	....	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Cloudy.
2...		24.470	63	32.5	24.422	32	32	100	N.	16	1.28	....	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Cloudy.
3...		25.950	54.5	38	25.901	38	36.5	85.8	N. W.	2	.02	....	Stratus ...	1-4	0	0	...	...	...	...	Fair.
4...		27.198	54	40	27.126	40	38	82	N. W.	4	.08	....	Stratus ...	2-4	Cumulus..	2-4	...	...	...	...	Cloudy.
Station 1...	2 0	23.780	59	32	23.720	32	31	89	N. W.	12	.72	....	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Cloudy.
2...		24.467	61	32	24.424	32	29.5	74.4	N.	7	.24	....	0	0	0	0	...	...	...	...	Clear.
3...		25.970	61	37	25.906	37	35	80.7	N. W.	2	.02	....	0	0	0	0	...	...	...	...	Clear.
4...		27.192	54	38	27.120	38.5	37.5	90.6	N.	2	.02	....	0	0	Cirrus	1-8	...	...	...	...	Clear.
Station 1...	3 0	23.790	64	32	23.719	32	31	89	N. W.	8	.32	....	Stratus ...	1-8	0	0	...	...	...	...	Fair.
2...		24.485	68	31.5	24.427	31.5	29.5	79.1	N.	11	.60	....	0	0	0	0	...	...	...	...	Clear.
3...		25.970	59	36	25.910	36	34	80.2	0	0	0	....	0	0	0	0	...	...	...	...	Clear.
4...		27.200	53	36.5	27.131	37	35.5	85.4	N.	2	.02	....	0	0	0	0	...	...	...	...	Clear.
Station 1...	4 0	23.805	64	32	23.734	32	31	89	N.	5	.12	....	Stratus ...	1-8	0	0	...	...	...	...	Fair.
2...		24.470	62	31.5	24.425	31.5	30	84.3	N. E.	11	.60	....	Stratus ...	2-4	0	0	...	...	...	...	Fair.
3...		25.988	59.5	35	25.927	35	34	89.8	N. W.	2	.02	....	Stratus ...	1-4	0	0	...	...	...	...	Fair.
4...		27.215	51	36	27.151	37	35.5	85.4	N.	2	.02	....	0	0	Cumulus..	1-4	N.	...	...	...	Fair.
Station 1...	5 0	23.810	65	33	23.737	33	32	89	N.	8	.32	....	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Fair.
2...		24.510	67	32	24.454	32	30.5	84.5	N.	8	.32	....	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Cloudy.
3...		25.990	56.5	36.5	25.936	36.5	35.5	90.1	0	0	0	....	Stratus ...	1-4	0	0	...	...	...	...	Fair.
4...		27.230	50	36.5	27.168	37.5	36	85.6	N.	4	.08	....	Stratus ...	1-4	Cirrus	1-4	N. W.	...	...	...	Fair.
Station 1...	6 0	23.835	67	34	23.757	34	33	90	N.	7	.74	....	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Cloudy.
2...		24.530	65	33	24.478	32.5	32	94.5	N. W.	12	.72	....	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Cloudy.
3...		26.020	59	37.5	25.960	37.5	36.5	90.4	0	0	0	....	Stratus ...	1-4	0	0	...	...	...	...	Fair.
4...		27.249	50	39	27.186	39.5	38	86.3	N.	2	.02	....	Stratus ...	1-4	Cirrus	2-4	N. W.	...	...	...	Fair.
Station 1...	7 0	23.860	69	34	23.778	34	33	90	N.	5	.12	....	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Cloudy.
2...		24.529	61	34	24.486	33.5	33.5	100	W.	13	.84	....	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Cloudy.
3...		26.040	59	39.5	25.980	39.5	38.5	90.8	0	0	0	....	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Cloudy.
4...		27.270	52	43	27.202	43.5	41.5	83.4	0	0	0	....	Stratus ...	1-4	Cumulus..	1-4	...	...	...	...	Fair.
Station 1...	7 57	23.865	69	34	23.783	34	33	90	N.	5	.12	....	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Cloudy.
2...		24.540	59	35	24.501	34.5	34	94.8	W.	14	.98	....	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Cloudy.
3...		26.050	59.5	40	25.989	40	39	91.0	W.	2	.02	....	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Cloudy.
4...		27.285	52	46	27.220	46	43.5	80.5	0	0	0	....	Stratus ...	3-4	0	0	...	...	...	...	Cloudy.
Station 1...	9 0	23.875	65	35	23.802	35	34	90	N. W.	10	.50	....	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Cloudy.
2...		24.540	52	36	24.516	35	34.5	94.8	N. W.	17	1.44	....	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Cloudy.
3...		26.060	59.5	41	26.009	41	40	91.2	N. W.	5	.12	....	Stratus ...	2-4	Cumulus..	1-4	N. W.	...	...	...	Cloudy.
4...		27.301	55	49	27.226	49	45	71.0	W.	4	.08	....	Stratus ...	3-4	Cumulus..	1-4	N. W.	...	...	...	Cloudy.
Station 1...	10 0	23.885	66	35	23.810	35	34	90	N. W.	12	.72	....	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Cloudy.
2...		24.569	62	36.5	24.524	36	35	90.0	N. W.	14	.98	....	Stratus ...	4-4	Hidden ...	...	...	...	...	...	Cloudy.
3...		26.063	60	43	26.001	43	40.5	79.1	N. W.	2	.02	....	Stratus ...	2-4	Cumulus..	1-4	N. W.	...	...	...	Cloudy.
4...		27.309	55	51	27.234	51	45	59.0	W.	6	.18	....	Stratus ...	3-4	0	0	...	...	...	...	Cloudy.

Meteorological record for June 22, 1873—Continued.

Place of observation.	Time of observation.	Barometer.	THERM. Attached.	THERM. Exposed.	Corrected barometer.	HYGROM. Dry bulb.	HYGROM. Wet bulb.	Relative humidity.	WIND. Direction.	WIND. Velocity per hour.	WIND. Pressure per sq. ft.	WIND. Daily velocity.	LOWER CLOUDS. Kind.	LOWER CLOUDS. Amount.	UPPER CLOUDS. Kind.	UPPER CLOUDS. Amount.	UPPER CLOUDS. Direction, (moving from—)	RAIN OR SNOW. Commen'd.	RAIN OR SNOW. Ended.	Amount of rain or melted snow.	Remarks.
	a. m.																				
Station 1...	11 0	23.890	65	33	23.817	33	33	100	W.	10	.50	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
2...		24.569	59	37	24.530	36	35.5	94.9	N. W.	12	.72	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		26.070	61.5	43.5	26.005	43.5	42	72.6	N. W.	5	.12	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
4...		27.318	57	53	27.238	52.5	47	63.3	S. E.	4	.08	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Station 1...	12 m.	23.890	62	35	23.823	35	34	90	W.	8	.32	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
2...		24.584	66	39	24.530	38	37.5	95.2	N. W.	10	.50	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3..		26.085	64.5	45	26.013	45	42	76.2	N. W.	4	.03	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
4...		27.318	57	53	27.238	53	47	60.6	W.	2	.02	91	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
	p. m.																				
Station 1...	1 0	23.900	64	34	23.829	34	33	90	N. W.	8	.32	....	Stratus ...	4-4	Hidden....	....	....	....	....	....	Cloudy.
2...		24.599	63	39	24.551	38	37	90.5	W.	22	2.42	....	Stratus ...	4-4	Hidden....	....	....	....	....	....	Cloudy.
3...		26.085	62	46	26.018	46	42.5	72.9	N. W.	5	.12	....	Stratus ...	3-4	Cumulus ..	1-4	N. W.	....	....	....	Cloudy.
4...		27.329	58	56	27.246	56	50	62.7	W.	4	.08	....	Stratus ...	4-4	Hidden....	....	....	....	....	....	Cloudy.
Station 1...	2 0	23.915	65	35	23.842	35	34	90	N. W.	10	.50	....	Stratus ...	4-4	Hidden....	....	....	....	....	....	Cloudy.
2...		24.610	65	42	24.553	41	39	82.4	W.	17	1.44	....	Stratus ...	3-4	Cumulus ..	1-4	W.	....	....	....	Cloudy.
3...		26.090	63	48	26.021	48	43.5	66.6	N. W.	5	.12	....	Stratus ...	2-4	Cumulus ..	1-4	N. W.	....	....	....	Cloudy.
4...		27 339	60	56	27.252	56	50	62.7	N. W.	4	.08	....	Stratus ...	3-4	0	0	0	....	....	....	Cloudy.
Station 1...	3 0	23.935	66	35	23.860	35	34	90	N. W.	6	.18	....	Stratus ...	4-4	Hidden....	....	....	....	....	....	Cloudy.
2...		24.634	68	42	24.576	41	39	82.4	N. W.	10	.50	....	Stratus ...	3-4	Cumulus ..	1-4	N. W.	....	....	....	Cloudy.
3...		26.105	64.5	51	26.033	51	45	59.0	N. W.	5	.12	....	Stratus ...	2-4	Cumulus ..	2-4	N. W.	....	....	....	Cloudy.
4...		27.375	63	57	27.260	57	50	57.7	E.	4	.08	....	Stratus ...	3-4	0	0	0	....	....	....	Cloudy.
Station 1...	4 0	23.930	63	36	23.861	36	34	80	N. W.	10	.50	....	Stratus ...	4-4	Hidden....	....	....	....	....	....	Cloudy.
2...		24.629	59	39	24.590	39	37	81.6	N. W.	7	.24	....	Stratus ...	4-4	Hidden....	....	....	....	....	....	Cloudy.
3...		26.120	61.5	46	26.055	46	42	69.1	N. W.	6	.18	....	Stratus ...	2-4	Cumulus ..	2-4	N. W.	....	....	....	Cloudy.
4...		27.368	61	56	27.278	56	50	62.7	N.	4	.08	....	Stratus ...	4-4	Hidden....	....	....	....	....	....	Cloudy.
Station 1...	4 57	23.934	60	36	23.871	36	35	90	N. W.	14	.98	....	Stratus ...	4-4	Hidden....	....	....	....	....	....	Cloudy.
2...		24.630	61	39	24.587	39	37	81.6	N. W.	12	.72	....	Stratus ...	4-4	Hidden....	....	....	....	....	....	Cloudy.
3...		26.120	63.5	46	26.050	46	42	69.1	N.	4	.08	....	Stratus ...	2-4	Cumulus ..	1-4	N. W.	....	....	....	Cloudy.
4...		27.378	61.5	56	27.257	56	50	62.7	N.	4	.08	....	Stratus ...	4-4	Hidden....	....	....	....	....	....	Cloudy.
Station 1 ..	6 0	23.952	58	36	23.894	36	35	90	N. W.	12	.72	....	Stratus ...	4 4	Hidden....	....	....	....	....	....	Cloudy.
2...		24.648	63	38.5	24.600	38	36.5	85.8	N.	8	.32	....	Stratus ...	4-4	Hidden....	....	....	....	....	....	Cloudy.
3...		26.140	63	45	26.071	45	42	76.2	N. W.	3	.04	....	Stratus ...	3-4	Cumulus ..	1-4	N. W.	....	....	....	Cloudy.
4...		27.390	59.5	52	27.301	52	47	66.0	N. W.	2	.02	....	Stratus ...	4-4	Hidden....	....	....	....	....	....	Cloudy.
Station 1...	7 0	23.968	58	38	23.910	38	37	90	N. W.	10	.50	....	Stratus ...	4-4	Hidden....	....	....	....	....	....	Cloudy.
2...		24.662	64	38	24.612	37.5	36	85.6	N.	7	.24	....	Stratus ...	3-4	0	0	0	....	....	....	Fair.
3...		26.130	62	44.5	26.083	44.5	41.5	75.9	0	0	0	....	Stratus ...	1-4	Cumulus ..	3-4	N.	....	....	....	Cloudy.
4...		27.405	61.5	49.5	27.314	50	40	71.6	N. W.	1	.01	....	Stratus ...	3-4	0	0	0	....	....	....	Cloudy

Station 1...	8	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	0	0	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
2...			24.670	64	37	24.620	37	35	80.7	E.	4	.08	....	Stratus ...	3-4	0	0	....	....	....	....	Fair.
3...			26.15	61	43.5	26.091	43.5	41	79.4	N. W.	1	.01	....	Stratus ...	3-4	Hidden....	....	....	....	....	....	Cloudy.
4...			27.412	61	48	27.322	48	45	77.7	N. W.	1	.01	....	Stratus ...	3-4	0	0	....	....	....	....	Cloudy.
Station 1...	9	0	24.008	63	34	23.939	34	32	79	N. E.	16	1.28	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
2...			24.668	60	36	24.627	36	33.5	75.3	E.	12	.72	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
3...			26.169	59	42	26.109	42	38.5	70.2	0	0	0	....	0	0	0	0	....	....	....	....	Clear.
4...			27.425	60.5	43.5	27.336	44	41	75.6	N. E.	3	.04	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	10	0	24.028	65	34	23.955	34	32	79	N. E.	8	.32	....	Stratus ...	1-16	0	0	....	....	....	....	Clear, (auror .)
2...			24.697	67	36	24.641	36	34	80.2	E.	11	.60	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
3...			26.166	54.5	42.5	26.117	42.5	39	70.6	0	0	0	....	0	0	0	0	....	....	....	....	Clear.
4...			27.430	59.5	41.5	27.344	42.5	40	78.9	N. E.	4	.08	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	11	22	24.045	69	34	23.963	34	32	79	N. E.	6	.18	....	0	0	0	0	....	....	....	....	Clear, (aurora.)
2...			24.700	63	35.5	24.654	35.5	33	75.0	E.	8	.32	....	0	0	0	0	....	....	....	....	Clear.
3...			26.174	56	42	26.121	42	39	74.4	N. W.	2	.02	....	0	0	0	0	....	....	....	....	Clear.
4...			27.441	58	40	27.358	41	39	82.4	N.	4	.08	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	12 mid-night.	0	24.048	70	34	23.964	34	32	79	0	0	0	....	0	0	0	0	....	....	....	....	Clear, (aurora.)
2.			24.700	62	35	24.656	35	33	79.7	S. E.	8	.32	270	0	0	0	0	....	....	....	....	Clear.
3...			26.180	55	41.5	26.129	41.5	38.5	74.1	0	0	0	71	0	0	0	0	....	....	....	....	Clear.
4...			27.432	57	40	27.352	41	39	82.4	N. E.	4	.08	....	0	0	0	0	....	....	....	....	Clear.

Meteorological record for June 23, 1873.

	a. m.																				
Station 1...	1	0	24.058	70	34	23.974	34	32	79	0	0	0	....	0	0	0	0	....	....	....	....	Clear.
2...			24.700	63	34.5	24.652	34.5	33	84.5	S. E.	4	.08	....	0	0	0	0	....	....	....	....	Clear.
3..			26.170	54.5	42	26.111	42	38.3	70.2	N. W.	1	.01	....	0	0	0	0	....	....	....	....	Clear.
4...			27.423	55	40	27.348	40.5	37.5	73.2	N.	4	.08	....	0	0	Cirrus.....	1-8	....	....	....	....	Clear.
Station 1...	2	0	24.040	66	35	23.965	35	33	80	0	0	0	....	0	0	0	0	....	....	....	....	Clear.
2...			24.710	66	34.5	24.656	34.5	33	84.5	S. E.	10	.50	....	0	0	0	0	....	....	....	....	Clear.
3...			26.181	55.5	41.5	26.129	41.5	38.5	74.1	N.	2	.02	....	0	0	0	0	....	....	....	....	Clear.
4...			27.425	54	40	27.352	40	38.5	83.4	N.	4	.08	....	0	0	Cirrus.....	1-8	....	....	....	....	Clear.
Station 1...	3	0	24.050	67	35	23.972	35	33	80	0	0	0	....	0	0	0	0	....	....	....	....	Clear.
2...			24.715	67	35.5	24.659	35.5	34	84.9	S. E.	1	.01	....	Stratus....	1-4	Cirrus.....	1-4	....	....	....	....	Fair.
3...			26.190	55	42	26.139	42	38.5	70.2	0	0	0	....	0	0	0	0	....	....	....	....	Clear.
4...			27.410	52	40	27.342	40	38.5	83.4	N.	4	.08	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	4	0	24.050	68	36	23.970	36	32	61	0	0	0	....	Stratus....	1-8	0	0	....	....	....	....	Fair.
2...			24.720	71	34.5	24.655	34.5	32.5	79.5	S. E.	1	.01	....	0	0	0	0	....	....	....	....	Clear.
3...			26.190	55	42	26.139	42	38.5	70.2	S. E.	4	.08	....	0	0	0	0	....	....	....	....	Clear.
4...			27.455	52	39.5	27.367	40	38.5	83.4	N. E.	6	.18	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	5	0	24.065	68	36	23.985	36	33	70	0	0	0	....	Stratus....	1-8	0	0	....	....	....	....	Fair.
2...			24.717	65	34.5	24.665	34.5	33.5	89.6	S. E.	5	.12	....	Stratus....	1-4	0	0	....	....	....	....	Fair.
3...			26.200	55.5	41.5	26.148	41.5	39	78.4	S. E.	4	.08	....	0	0	0	0	....	....	....	....	Clear.
4...			27.448	52	39.5	27.380	40	38.5	83.4	N. E.	4	.08	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	6	0	24.075	67	37	23.997	37	35	80	0	0	0	....	Stratus....	1-8	0	0	....	....	....	....	Fair.
2...			24.730	59	42.5	24.691	41.5	38.5	74.1	S. E.	1	.01	....	Stratus....	1-4	0	0	....	....	....	....	Fair.
8...			26.222	55	42	26.171	42	39	74.4	S. E.	2	.02	....	0	0	0	0	....	....	....	....	Clear.
4...			27.460	53	41.5	27.390	42	40	82.9	N. E.	4	08	....	0	0	0	0	....	....	....	....	Clear.

Meteorological record for June 23, 1873—Continued.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commenc'd.	Ended.		
Station 1...	a. m. 7 0	24. 087	67	39	24. 009	39	37	81	0	0	0	....	0	0	0	0	....	....	....	....	Clear.
2...		24. 739	60	43. 5	24. 698	43. 5	40. 5	73. 3	0	0	0	....	Stratus	1-4	0	0	....	....	....	....	Fair.
3...		26. 228	56	43. 5	26. 175	43. 5	40	71. 3	S. E.	2	.02	....	0	0	0	0	....	....	....	....	Clear.
4...		27. 472	53	47. 5	27. 408	48	45	77. 7	N. E.	2	.02	....	Stratus	1-8	0	0	....	....	....	....	Clear.
Station 1...	7 57	24. 100	64	41	24. 029	41	38	73	E.	2	.02	....	0	0	Cumulus	1-4	....	....	....	....	Fair.
2...		24. 740	61	45	24. 697	45	42	76. 2	E.	1	.01	....	Stratus	1-4	Cumulus	1-4	N. E.	....	....	....	Fair.
3...		26. 235	56	47	26. 182	47	43	69. 8	S. E.	1	.01	....	0	0	Cumulus	1-4	....	....	....	....	Clear.
4...		27. 480	54	52	27. 408	52	45. 5	62. 6	N. E.	2	.02	....	0	0	Cumulus	1-4	....	....	....	....	Clear.
Station 1...	9 0	24. 110	65	42	24. 037	42	39	75	0	0	0	....	Hazy	....	Cumulus	2-4	....	....	....	....	Fair.
2...		24. 797	67	48	24. 741	46	42. 5	72. 9	N.	4	.08	....	0	0	Cumulus	2-4	N. E.	....	....	....	Fair.
3...		26. 250	59. 5	50	26. 189	50	45	64. 6	S. E.	2	.02	....	0	0	Cumulus	1-4	....	....	....	....	Clear
4...		27. 498	56	55	27. 420	56	48	51. 2	N.	2	.02	....	0	0	Cumulus	1-4	S. E.	....	....	....	Fair.
Station 1...	10 0	24. 142	66	43	24. 067	43	40	75	0	0	0	....	Hazy	....	Cumulus	2-4	....	....	....	....	Fair.
2...		24. 790	61	51. 5	24. 747	49	44	63. 8	W.	2	.02	....	0	0	Cumulus	2-4	N. E.	....	....	....	Fair.
3...		26. 265	58	55	26. 206	55	49	62. 0	S. E.	6	.18	....	0	0	Cumulus	2-4	S. E.	....	....	....	Fair.
4...		27. 505	57	58	27. 425	58	50	52. 9	N. W.	4	.08	....	0	0	Cumulus	2-4	S. E.	....	....	....	Fair.
Station 1...	11 0	24. 145	65	44	24. 072	44	41	75	0	0	0	....	Hazy	....	Cumulus	3-4	....	....	....	....	Fair.
2...		24. 780	61	50	24. 737	48. 5	44	67. 0	0	0	0	....	0	0	Cumulus	2-4	E.	....	....	....	Fair.
3...		26. 260	60	55	26. 197	55	49	62. 0	W.	5	.12	....	0	0	Cumulus	2-4	S. E.	....	....	....	Fair.
4...		27. 499	60	62	27. 412	62	52	46. 1	W.	6	.18	....	0	0	Cumulus	2-4	S. E.	....	....	....	Fair.
Station 1...	12 m.	24. 120	61	46	24. 055	46	43	76	0	0	0	....	Hazy	....	Cumulus	3-4	....	....	....	....	Fair.
2...		24. 809	69	52	24. 748	51	46	65. 3	S E.	4	.08	....	Stratus	1-4	Cumulus	2-4	E	....	....	....	Fair.
3...		26. 260	64	56	26. 188	56	50	62. 7	W.	1	.01	....	0	0	Cumulus	2-4	....	....	....	....	Fair.
4...		27. 492	61	63	27. 402	63	53	47. 0	N. W.	2	.02	85	Stratus	1-4	Cumulus	2-4	S. E.	....	....	....	Cloudy.
Station 1...	p. m. 1 0	24. 122	60	47	24. 059	47	45	85	0	0	0	....	Hazy	....	Cumulus	3-4	....	....	....	....	Fair.
2...		24. 800	69	52	24. 739	50	46	71. 6	S. W.	5	.12	....	Stratus	1-4	Cumulus	2-4	E.	....	....	....	Fair.
3...		26. 265	66	57	26. 188	57	51	63. 4	0	0	0	....	0	0	Cumulus	3-4	....	....	....	....	Cloudy.
4...		27. 490	64	67	27. 393	66	55	45. 0	S. W.	4	.08	....	Stratus	1-4	Cumulus	2-4	....	....	....	....	Cloudy.
Station 1...	2 0	24. 120	60	45	24. 057	45	42	76	W.	2	.02	....	Hazy	....	Cumulus	4-4	....	....	....	....	Cloudy.
2...		24. 799	67	55	24. 743	54	47	55. 2	S. W.	7	.24	....	Stratus	1-4	Cumulus	2-4	S. W.	....	....	....	Fair.
3...		26. 265	67	62	26. 186	62	53	51. 1	S. W.	6	.18	....	0	0	Cumulus	3-4	....	....	....	....	Cloudy.
4...		27. 497	65	67	27. 397	67	56	45. 9	W.	4	.08	....	0	0	Cumulus	3-4	N. W.	....	....	....	Cloudy.
Station 1...	3 0	24. 130	63	46	23. 061	46	43	76	0	0	0	....	Hazy	....	Cumulus	3-4	....	....	....	....	Fair.
2...		24. 799	69	56. 5	24. 738	56	48	51. 2	N. W.	6	.18	....	Stratus	1-4	Cumulus	2-4	W.	....	....	....	Fair.
3...		26. 258	65	60	26. 183	60	52	54. 6	W.	4	.08	....	0	0	Cumulus	4-4	....	....	....	....	Cloudy.

Station 1...		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	0	0	....	Hazy ...	[illegible]	Cumulus..	[illegible]	....	....	....	....	Fair.
2...	4 0	24.799	65	52	24.747	52	46	59.8	N. W.	8	.32	....	Stratus ...	1-4	Cumulus..	2-4	W.	....	....	....	Fair.
3...		26.253	65	60	26.178	60	52	54.6	W.	4	.08	....	0	0	Cumulus..	4-4	W.	....	....	....	Cloudy.
4...		27.493	68	66	27.386	66	56	49.5	N. W.	4	.08	....	Stratus ...	1-4	Cumulus..	2-4	N. W.	....	....	....	Cloudy.
Station 1...		24.130	68	46	24.050	46	43	76	S. W.	1	.01	....	0	0	Cumulus..	3-4	S. W.	....	....	....	Fair.
2...	4 57	24.78	63	54.5	24.732	54.5	48	58.7	N. W.	8	.32	....	Stratus ...	1-4	Cumulus..	2-4	W.	....	....	....	Fair.
3...		26.255	64	60	26.183	60	52	54.6	W.	4	.08	....	0	0	Cumulus..	4-4	W.	....	....	....	Cloudy.
4...		27.491	68.5	64.5	27.383	64.5	55	50.7	N. W.	2	.02	....	Stratus ...	1-4	Cumulus..	2-4	N. W.	....	....	....	Cloudy.
Station 1...		24.128	67	44	24.050	44	41	75	S. W.	12	.72	....	0	0	Cumulus..	3 4	S. W.	....	....	....	Fair.
2...	6 0	24.775	62	49	24.733	49	45	71.0	S. W.	8	.32	...	Stratus ...	1-4	Cumulus..	2-4	W.	....	....	....	Fair.
3...		26.250	67	55	26.171	55	50	68.1	S. W.	2	.02	....	0	0	Cumulus..	4-4	W.	....	....	....	Cloudy.
4...		27.488	66	60.5	27.386	60.5	53	57.6	S.	2	.02	....	Stratus ...	2-4	Cumulus..	1-4	N. W.	....	....	....	Cloudy.
Station 1...		24.120	65	45	24.047	45	42	76	S. W.	2	.02	....	0	0	Cumulus..	3-4	S. W.	....	....	....	Fair.
2...	7 0	24.791	67	48	24.735	48	44.5	74.0	S. W.	8	.32	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		26.247	67.5	54	26.168	54	49	67.4	0	0	0	....	Stratus ...	3-4	Cirrus	1-4	N. W.	....	....	....	Cloudy.
4...		27.489	64	58	27.392	58	53	69.8	S.	1	.01	....	Stratus ...	2-4	Cirrus	1-4	N. W.	....	....	....	Cloudy.
Station 1...		24.120	67	44	24.042	44	41	75	0	0	0	....	Hazy	....	Cumulus..	3-4	S. W.	....	....	....	Fair.
2...	8 0	24.785	68	46	24 727	46	43	76.7	S. W.	6	.18	....	Stratus ...	2-4	Cirrus	1-4	N.	....	....	....	Fair.
3...		26.255	67	53	26.166	53	48.5	69.9	S.	3	.04	....	Stratus ...	1-4	Cumulus..	2-4	N. W.	....	....	....	Cloudy.
4...		27.480	63.5	55	27.384	56	51	68.7	S.	1	.01	....	Stratus ...	1-4	Cumulus..	2-4	N. W.	....	....	....	Cloudy.
Station 1...		24.124	69	46	24.042	45	42	76	S. W.	4	.08	....	Stratus ...	1-8	0	0	....	....	....	....	Clear.
2...	9 0	24.782	65	45	24.730	45	42	76.2	S. W.	4	.08	....	Stratus ...	1-4	Cirrus	1-4	....	....	....	....	Fair.
3...		26.258	67.5	51	26.179	51	47	72.2	S. E.	1	.01	....	0	0	0	0	....	....	....	....	Clear.
4...		27.480	63.5	52.5	27.384	53.5	43.5	36.3	S.	4	.08	....	0	0	0	0	....	....	....	....	Clear.
Station 1...		24.139	69	45	24.053	44	42	84	0	0	0	...	Stratus ...	1-4	0	0	....	....	....	....	Fair.
2...	10 0	24.789	64	43	24.739	43	41	91.4	S. W.	4	.08	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
3...		26.260	64	49	26.188	49	46	78.1	S. E.	1	.01	....	0	0	0	0	....	....	....	....	Clear.
4...		27.429	63.5	50	27.396	51	47.5	75.6	S.	4	.08	....	0	0	0	0	....	....	....	....	Clear.
Station 1...		24.132	71	44	24.057	44	42	84	0	0	0	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
2...	11 22	24.785	65	43	24.733	43	40	75.0	S.	2	.02	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
3...		26.260	66	49	26.183	49	46	78.1	0	0	0	....	0	0	0	0	....	....	....	....	Clear.
4...		27.490	60	48	27.403	49	46	78.1	S. W.	4	.08	....	0	0	0.	0	....	....	....	....	Clear.
Station 1...		24.130	67	44	24.052	44	42	84	0	0	0	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
2...	12 0 mid-night.	24.785	65	42.5	24.733	42.5	40	78.9	S.	1	.01	100	0	0	0	0	....	....	....	....	Clear.
3...		26.265	68	48	26.183	48	45	77.7	N. W.	1	.01	48	0	0	0	0	....	....	....	....	Clear.
4...		27.488	59	48	27.403	49	46	78.1	W.	4	.08	....	0	0	0	0	....	....	....	....	Clear.

Meteorological record for June 24, 1873.

Station 1 ..	a. m.	24.120	68	44	24.040	44	40	67	0	0	0	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
2...	1 0	24.775	65	42	24.723	42	40.5	87.1	0	0	0	....	0	0	0	0	....	....	....	....	Clear.
3...		26.250	67	49	26.171	49	45	71.0	0	0	0	....	0	0	0	0	....	....	....	....	Clear.
4...		27.450	59	48	27.365	48	46	85.0	S.	4	.08	....	0	0	0	0	....	....	....	....	Clear.
Station 1...		24.115	70	43	24.031	43	39	66	0	0	0	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
2...	2 0	24.758	67	41.5	24.702	41.5	39	78.4	S. E.	6	.18	....	0	0	0	0	....	....	....	....	Clear.
3...		26.230	65	48	26.156	48	45	77.7	0	0	0	....	0	0	0	0	....	....	....	....	Clear.
4...		27.440	60	46	27.353	46.5	45.5	92.2	S. E.	4	.08	....	0	0	0	0	....	....	....	....	Clear.

Meteorological record for June 24, 1873—Continued..

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'en'd.	Ended.		
Station 1	a. m. 3 0	24.108	71	42	24.022	42	37	57	0	0	0		Stratus	1-4	0	0					Fair.
2		24.757	68	40.5	24.699	40.5	37.5	73.5	S.	7	.24		Stratus	1-4	0	0					Fair.
3		26.220	62.5	47	26.152	47	45	84.7	0	0	0		0	0	0	0					Clear.
4		27.440	60	46.5	27.353	47	45	84.7	S.	4	.08		0	0	0	0					Clear.
Station 1	4 0	24.100	72	41	24.012	41	36	56	N. E	2	.02		Stratus	1-4	0	0					Fair.
2		24.745	67	40.5	24.689	40.5	36.5	64.9	S.	5	.12		Stratus	1-4	0	0					Fair.
3		26.230	64.5	47	26.158	47	45	84.7	S. E.	1	.01		0	0	0	0					Clear.
4		27.448	60	46	27.361	46.5	44.5	83.5	S. E.	4	.08		Stratus	1-4	0	0					Clear.
Station 1	5 0	24.100	69	42	24.018	42	37	57	N. E.	4	.08		Stratus	1-4	0	0					Fair.
2		24.771	64	44	24.721	44	40.5	71.6	S.	6	.18		Stratus	1-4	0	0					Fair.
3		26.240	62	47	26.183	47	46	92.3	0	0	0		0	0	0	0					Clear.
4		27.460	59	47	27.375	47.5	45	81.1	S. E.	4	.08		Stratus	1-4	0	0					Clear.
Station 1	6 0	24.110	70	43	24.026	43	39	66	N. E.	5	.12		Stratus	1-4	0	0					Fair.
2		24.756	64	48.5	24.706	48	44	70.4	E.	4	.08		Stratus	1-4	0	0					Fair.
3		26.242	62.5	47	26.174	47	46	92.3	0	0	0		Smoky		Cirrus	1-4					Clear.
4		27.460	58	47.5	27.377	48	46	85.0	S. E.	4	.08		Stratus	1-4	0	0					Clear.
Station 1	7 0	24.130	72	44	23.942	44	40	67	E.	4	.08		Hazy		Cirro.-strat	1-8	E.				Fair.
2		24.760	65	48.5	24.706	48.5	45	74.3	N.	2	.02		Stratus	1-4	Cirrus	1-4	N. W.				Fair.
3		26.258	65.5	50	26.183	50	48	85.6	S. E.	1	.01		Smoky		Cirrus	1-4	E.				Clear.
4		27.478	57	53	27.398	54	51	80.2	S. E.	2	.02		Stratus	1-4	0	0					Clear.
Station 1	7 57	24.130	70	45	24.046	45	41	67	E.	5	.12		Hazy		Cirro.-strat	1-4					Fair.
2		24.778	63	49.5	24.729	49.5	48.5	92.6	N.	7	.24		0	0	Cumulus	1-4	E.				Fair.
3		26.262	67	57	26.183	57	52	69.2	0	0	0		Smoky		Cumulus	2-4	S. E.				Fair.
4		27.478	59	58	27.393	58.5	53	67.2	N. W.	2	.02		0	0	Cumulus	1-4					Fair.
Station 1	9 0	24.120	65	48	24.047	48	43	62	S. E.	5	.12		Hazy		Cumulus	1-4	N. W.				Fair.
2		24.790	66	51	24.734	51	46	65.3	S. W.	2	.02		0	0	Cumulus	2-4	E.				Fair.
3		26.26[illegible]	67	57	26.181	57	52	69.2	0	0	0		Smoky		Cumulus	2-4	S. E.				Fair.
4		27.475	61	63	27.385	63	56	61.9	N. W.	2	.02		0	0	Cumulus	2-4	S. E.				Fair.
Station 1	10 0	24.130	63	48	24.061	48	43	62	S. E.	5	.12		Hazy		Cumulus	2-4					Fair.
2		24.799	68	52	24.739	52	46	59.8	N. E.	5	.12		0	0	Cumulus	3-4	W.				Fair.
3		26.260	65	58	26.187	58	53	69.8	W.	2	.02		Smoky		Cumulus	2-4	S. E.				Fair.
4		27.485	63	64	27.390	64	55	52.7	S. W.	2	.02		Stratus	1-4	Cumulus	2 4	S. E.				Cloudy.
Station 1	11 0	24.143	64	49	24.072	49	44	64	E.	2	.02		Hazy		Cumulus	2-4					Fair.
2		24.799	65	55	24.745	55	48	56.1	N. E.	8	.32		0	0	Cumulus	3-4	W.				Fair
3		26.265	65.5	58	26.190	58	52	64.1	W.	2	.02		Smoky		Cumulus	3-4	S. E.				Cloudy.
4		27.489	65	65	27.369	65	55	48.7	N. W.	4	.08		Stratus	1-4	Cumulus	2-4					Cloudy.
Station 1	12 m.	24.152	66	49	24.077	49	44	64	E.	2	.02		Hazy		Cumulus	2-4	W.				Fair.
2		24.809	68	53.5	24.749	53	45	48.3	E.	5	.12		Stratus	1-4	Cumulus	2-4	W.				Fair.
3		26.270	64.5	60	26.198	60	52	54.6	N. E.	2	.02		Smoky		Cumulus	3-4	N. E.				Cloudy.

	p. m.																				
Station 1	1 0	24.143	63	50	24.074	50	44	58	E.	4	.08	....	Hazy	....	Cumulus	3-4	W.	....	....	....	Fair.
2		24.819	69	54.5	24.757	53.5	45	45.8	0	0	0	....	0	0	Cumulus	3-4	N. E.	....	....	....	Fair.
3		26.270	64	61	26.198	61	52	50.2	N. E	5	.12	....	Smoky	....	Cumulus	3-4	N. E.	....	....	....	Cloudy.
4		27.497	68	68.5	27.399	69	55	35.0	N. W.	4	.08	....	Stratus	2-4	Cumulus	1-4	N.	....	....	....	Cloudy.
Station 1	2 0	24.143	62	51	24.076	51	44	53	E.	5	.12	....	Hazy	....	Cumulus	3-4	....	....	....	....	Fair.
2		24.828	71	56	24.761	56	47	45.5	E.	11	.60	....	0	0	Cumulus	3-4	N.	....	....	....	Fair.
3		26.268	64.5	62	26.195	62	52	46.1	S. E.	4	.08	....	Smoky	....	Cumulus	3-4	N. E.	....	....	....	Cloudy.
4		27.499	68	69.5	27.392	69	56	39.1	N. E.	4	.08	....	Stratus	2-4	Cumulus	1-4	N.	....	....	....	Cloudy.
Station 1	3 0	24.150	61	50	24.085	50	45	64	E.	4	.08	....	Hazy	....	Cumulus	3-4	....	....	....	....	Fair.
2		24.818	66	55	24.762	55	47	50.2	E.	11	.60	....	Stratus	1-4	Cumulus	2-4	N. W.	....	....	....	Fair.
3		26.270	64	61.5	26.198	61.5	52.5	50.6	S.	5	.12	....	Smoky	....	Cumulus	3-4	N. E.	....	....	....	Cloudy.
4		27.449	69	71	27.389	70.5	58	42.4	N. E.	4	.08	....	Stratus	2-4	Cumulus	1-4	N.	....	....	....	Cloudy.
Station 1	4 0	24.145	60	49	24.082	49	43	63	E	6	.18	....	Hazy	....	Cumulus	2-4	W.	....	....	....	Fair.
2		24.809	64	55	24.758	54.5	46.5	49.7	S. E.	8	.32	....	Stratus	1-4	Cumulus	2-4	N. E.	....	....	....	Fair.
3		26.261	63.5	63	26.190	63	53	47.0	S. E.	5	.12	....	Stratus	1-4	Cumulus	2-4	N. E.	....	....	....	Cloudy.
4		27.499	71	70	27.385	70	57.5	42.0	S.	4	.08	....	Stratus	1-4	Cumulus	1-4	N.	....	....	....	Fair.
Station 1	4 57	24.155	59	48	24.095	48	43	62	E.	2	.02	....	Hazy	....	Cumulus	2-4	E.	....	....	....	Fair.
2		24.811	64	55	24.76[illegible]	54.5	47	52.7	N. E.	5	.12	....	Stratus	1-4	Cumulus	1-4	N. E.	....	....	....	Fair.
3		26.269	65	63	26.154	63	53	47.0	N. W.	3	.04	....	0	0	Cumulus	2-4	N. E.	....	....	....	Fair.
4		27.501	70	63.5	27.389	63.5	56	59.7	S. E.	2	.02	....	0	0	Cumulus	2-4	N.	....	....	....	Fair.
Station 1	6 0	24.160	58	50	24.102	50	46	51	0	0	0	....	Hazy	....	Cumulus	1-4	N. E.	....	....	....	Fair.
2		24.825	66	55	24.769	54.5	47	52.7	N. E.	1	.01	....	Stratus	1-4	Cumulus	1-4	N. E.	....	....	....	Fair.
3		26.290	71.5	63	26.100	63	53	47.0	W.	4	.08	....	Smoky	....	Cumulus	1-4	N. E.	....	....	....	Clear.
4		27.512	70	59.5	27.400	59.5	56	79.1	S. E.	2	.02	....	0	0	Cumulus	2-4	N.	....	....	....	Fair.
Station 1	7 0	24.170	57	48	24.114	48	44	70	0	0	0	...	Hazy	....	Cumulus	1-8	....	....	....	....	Fair.
2		24.840	70	54	24.775	54	47	55.2	E.	8	.32	....	Stratus	1-4	Cirrus	1-4	E.	....	....	....	Fair.
3		26.300	72	63.5	26.209	63.5	53.5	47.4	N. W.	2	.02	....	0	0	Cumulus	1-4	....	....	....	....	Clear.
4		27.520	68	63	27.413	63	54	51.9	S.	4	.08	....	Stratus	1-4	Cirrus	1-4	N.	....	....	....	Fair.
Station 1	8 0	24.165	56	46	24.111	46	43	77	0	0	0	....	Hazy	....	0	0	....	....	....	....	Clear.
2		24.825	59	50	24.785	50	44	58.1	E.	1	.01	....	Stratus	1-4	Cirrus	1-4	S. E.	....	....	....	Fair.
3		26.810	69	56	26.226	56	50	62.7	E.	4	.08	....	0	0	Cumulus	1-4	....	....	....	....	Clear.
4		27.529	64	56.5	27.432	56.5	51.5	68.9	S. E.	2	.02	....	Stratus	1-4	0	0	....	....	....	....	Fair.
Station 1	9 0	24.195	57	46	24.139	46	41	60	0	0	0	....	Hazy	....	0	0	....	....	....	....	Clear.
2		24.850	63	48.5	24.801	48.5	43.5	63.5	E.	1	.01	....	Stratus	1-4	Cirrus	1-4	E.	....	....	....	Fair.
3		26.325	68	54	26.243	54	48	61.3	E.	4	.08	....	0	0	0	0	....	....	....	....	Clear.
4		27.550	62	53.5	27.458	54	50	73.8	S. E.	4	.08	....	Stratus	1-4	0	0	....	....	....	....	Fair.
Station 1	10 0	24.191	57	45	24.135	45	40	60	N. E.	5	.12	....	Hazy	....	0	0	....	....	....	....	Clear.
2		24.860	63	49	24.811	49	43	57.2	N. E.	2	.02	....	Stratus	1-4	0	0	....	....	....	....	Fair.
3		26.330	65	54	26.255	54	47.5	58.3	E.	4	.08	....	0	0	0	0	....	....	....	....	Clear.
4		27.552	62	51.5	27.460	52	48	72.7	S. E.	4	.08	....	0	0	0	0	....	....	....	....	Clear.
Station 1	11 22	24.210	54	45	24.160	45	39	53	N. E.	8	.32	....	Hazy	....	0	0	....	....	....	....	Clear.
2		24.870	57	48	24.834	48	42	56.3	S. W.	4	.08	....	0	0	0	0	....	....	....	....	Clear.
3		26.360	67	54	26.281	54	47.5	58.3	E.	2	.02	....	0	0	0	0	....	....	....	....	Clear.
4		27.575	60.5	50	27.487	51	47	72.2	S. E.	4	.08	....	0	0	0	0	....	....	....	....	Clear.
Station 1	12 0 mid-night.	24.205	54	45	24.155	45	39	53	N. E.	10	.50	....	Hazy	....	0	0	....	....	....	....	Clear.
2		24.870	55	47.5	24.836	47.5	42	59.4	S.	2	.02	120	0	0	0	0	....	....	....	....	Clear.
3		26.360	67	53	26.281	53	46	54.4	E.	5	.12	55	0	0	0	0	....	....	....	....	Clear.
4		27.575	60	50	27.488	51	47	72.2	S. W.	4	.08	....	0	0	0	0	....	....	....	....	Clear.

Meteorological record for June 25, 1873.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from —)	Commen'd.	Ended.		
Station 1...	p. m. 1 0	24. 213	56	44	24. 159	44	39	59	N. E.	7	. 24	....	0	0	0	0	....	....	....	....	Clear.
2...		24. 868	59	47	24. 828	47	41	55. 4	S. W.	12	. 72	....	0	0	0	0	....	....	....	....	Clear.
3...		26. 365	67	53	26. 286	53	46. 5	57. 4	0	0	0	....	0	0	0	0	....	....	....	....	Clear.
4...		27. 550	60	51	27. 460	51. 5	47	68. 9	S.	4	. 08	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	2 0	24. 213	57	44	24. 157	44	39	59	N. E.	5	. 12	....	0	0	0	0	....	....	....	....	Clear.
2...		24. 875	65	48	24. 821	48	41. 5	52. 8	S. E.	5	. 12	....	0	0	0	0	....	....	....	....	Clear.
3...		26. 368	68	53	26. 286	53	46	54. 4	E.	1	. 01	....	0	0	0	0	....	....	....	....	Clear.
4...		27. 570	62	50	27. 478	50. 5	46	68. 3	S. E.	4	. 08	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	3 0	24. 220	56	44	24. 166	44	39	59	N. E.	4	. 08	....	0	0	0	0	....	....	....	....	Clear.
2...		24. 893	67	47	24. 835	47. 5	42. 5	62. 4	0	0	......	....	0	0	0	0	....	....	....	....	Clear.
3...		26. 368	66	52	26. 291	52	46	59. 8	E.	1	. 01	....	0	0	0	0	....	....	....	....	Clear.
4...		27. 590	62	50	27. 498	50. 5	46	68. 3	S.	4	. 08	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	4 0	24. 230	54	44	24. 180	44	39	59	N. E.	5	. 12	....	0	0	0	0	....	....	....	....	Clear.
2...		24. 891	64	45	24. 840	45	41	68. 4	0	0	0	....	Stratus ...	1-4	0	0	....	....	....	....	Clear.
3...		26. 380	68	52	26. 298	52	46. 5	62. 9	E.	4	. 08	....	0	0	0	0	....	....	....	....	Clear.
4...		27. 595	61	49	27. 505	49. 5	46. 5	78. 3	S. E.	4	. 08	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	5 0	24. 235	53	44	24. 187	44	39	50	N. E.	2	. 08	....	0	0	0	0	....	....	....	....	Clear.
2...		24. 880	55	46. 5	24. 849	46. 5	43	73. 2	S.	12	. 72	....	Stratus ...	1-4	0	0	....	....	....	....	Clear.
3...		26. 410	71	53	26. 320	53	47	60. 6	0	0	0	....	0	0	0	0	....	....	....	....	Clear.
4...		27. 600	60	50	27. 513	50. 5	47	75. 3	S. E.	4	. 08	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	6 0	24. 260	55	47	24. 208	47	42	61	N. E.	2	. 02	....	0	0	0	0	....	....	....	....	Clear.
2...		24. 900	53	47. 5	24. 873	47	46	92. 3	E.	6	. 18	....	Stratus ...	1-4	0	0	....	....	....	....	Clear.
3...		26. 420	70	53	26. 333	53	47. 5	66. 3	0	0	0	....	0	0	0	0	....	....	....	....	Clear.
4...		27. 620	58	51	27. 537	51	47	72. 2	S. E.	4	. 08	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	7 0	24. 280	59	49	24. 219	49	43	57	N. E.	2	. 02	....	0	0	0	0	....	....	....	....	Clear.
2...		24. 934	65	52	24. 880	52. 5	46	57. 0	N.	8	. 32	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
3...		26. 430	67	55	26. 350	55	49	62. 0	0	0	0	....	0	0	0	0	....	....	....	....	Clear.
4...		27. 641	58	56	27. 558	57	52	69. 2	S. E.	4	. 08	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	7 57	24. 300	60	50	24. 236	50	44	58	N. E.	4	. 08	....	0	0	0	0	....	....	....	....	Clear.
2...		24. 950	61	53. 5	24. 905	53. 5	50. 5	80. 0	N.	10	. 50	....	0	0	Cumulus..	1-4	N.	....	....	....	Fair.
3...		26. 440	67	59	26. 360	59	51	53. 7	0	0	0	....	0	0	0	0	....	....	....	....	Clear.
4...		27. 658	61	62. 5	27. 568	63	55	56. 8	N. W.	2	. 02	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	9 0	24. 310	57	52	24. 253	52	42	34	N. E.	1	. 01	....	0	0	Cumulus..	1-8	....	....	....	....	Clear.
2...		24. 980	58	56	24. 942	55	44	33. 3	N.	8	. 32	....	Stratus ...	1-4	Cumulus..	1-4	N.	....	....	....	Fair.
3...		26. 445	66. 5	61	26. 367	61	49	35. 3	N.	5	. 12	....	0	0	Cumulus..	1-4	....	....	....	....	Clear.
4...		27. 669	63	67	27. 574	67	56	45. 9	N. W.	4	. 08	....	0	0	Cumulus..	1-8	S. E.	....	....	....	Clear.

Station 1...	10 0	24.310	56	52	24.255	52	42	34	N. E.	5	.12	....	0	0	Cumulus..	1-8	N. E.	......	......	......	Clear.
2...		24.980	57	56	24.944	56	45	34.6	N.	11	.60	...	Stratus ...	1-4	Cumulus..	1-4	N.	......	......	......	Fair.
3...		26.455	65	65	26.380	65	52	35.1	N. W.	6	.18	....	0	0	Cumulus..	1-4	N. E.	......	......	......	Clear.
4...		27.682	65	69	27.582	69	55	35.0	N. E.	4	.08	....	0	0	Cumulus..	1-4	E.	......	......	......	Fair.
Station 1...	11 0	24.320	56	54	24.263	54	44	37	N. E.	2	.02	....	0	0	Cumulus..	1-8	....	......	......	......	Clear.
2...		24.988	60	59	24.946	58	47	37.0	N. E.	8	.32	....	Stratus ...	1-4	Cumulus..	1-4	N. E.	......	......	......	Fair.
3...		26.455	66	65	26.377	65	51.5	32.8	N. W.	4	.08	....	0	0	Cumulus..	1-4	N. E.	......	......	......	Clear.
4...		27.683	67	71	27.578	71	55	29.2	N. W.	6	.18	....	0	0	Cumulus..	1·4	E.	......	......	......	Fair.
Station 1...	12 m.	24.325	56	55	24.270	55	45	38	N. E.	1	.01	...	0	0	Cumulus..	1-4	N. E.	......	......	......	Fair.
2...		24.988	78	59	24.906	59	48	38.1	N. E.	5	.12	....	0	0	Cumulus..	2-4	N. E.	......	......	......	Fair.
3...		26.455	67	65	26.375	65	52	35.1	N.	5	.12	....	0	0	Cumulus..	1-4	N. E.	......	......	......	Fair.
4...		27.681	69	74	27.571	74	56	25.1	N. W.	4	.08	86	0	0	Cumulus..	2-4	E.	......	......	......	Fair.
Station 1...	p. m. 1 0	24.3 5	56	54	24.270	54	44	37	N. E.	4	.08	....	Hazy	....	Cumulus..	2-4	N. E.	......	......	......	Fair.
2...		25.009	71	62	24.942	61	48	30.6	N.	12	.72	....	0	0	Cumulus..	2-4	E.	......	......	......	Fair.
3...		26.460	67.5	69	26.379	69	55	35.0	N. W.	2	.02	....	0	0	Cumulus..	1-4	N. E.	......	......	......	Fair.
4...		27.681	72	77	27.564	77	57	21.5	N. W.	4	.08	....	0	0	Cumulus..	2·4	S. E.	......	......	......	Fair.
Station 1...	2 0	24.315	57	56	24.258	56	45	34	N. E.	5	.12	....	Hazy	....	Cumulus..	1-4	N. E.	......	......	......	Fair.
2...		24.909	67	64	24.941	64	50	29.5	E.	5	.12	....	0	0	Cumulus..	2-4	E.	......	......	......	Fair.
3...		26.465	77	69	26.361	69	53	27.0	W.	2	.02	....	0	0	Cumulus..	1-4	N. E.	......	......	......	Fair.
4...		27.680	74	76	27.558	75	57	26.1	N. E.	4	.08	....	0	0	Cumulus..	2-4	S. E.	......	......	......	Fair.
Station 1...	3 0	24.315	57	56	24.258	56	46	39	N. E.	1	.01	....	Hazy	....	Cumulus..	2-4	....	......	......	......	Fair.
2...		24.988	67	63	24.930	61	49	35.3	N. E.	4	.08	....	0	0	Cumulus..	3-4	E.	......	......	......	Fair.
3...		26.460	77	72	26.356	72	56	30.2	N. W.	4	.08	....	Hazy	....	Cumulus..	2-4	N. E.	......	......	......	Fair.
4...		27.672	77	76	27.543	76	59	30.5	W.	2	.02	....	0	0	Cumulus..	3-4	....	......	......	......	Cloudy.
Station 1...	4 0	24.325	57	55	24.268	55	47	50	S. W.	2	.02	....	Hazy	....	Cumulus..	2-4	....	......	......	......	Fair.
2...		24.990	67	63	24.932	62	51	41.2	W.	6	.18	....	Stratus ...	1-4	Cumulus..	2-4	W.	......	......	......	Fair.
3...		26.465	75	68	26.366	68	56	42.4	S. E.	4	.08	....	Hazy	....	Cumulus..	2-4	N. E.	......	......	......	Fair.
4...		27.675	75	76	27.551	75	60	36.7	S.	2	.02	....	Stratus ...	2-4	Cumulus..	1-4	....	......	......	......	Cloudy.
Station 1...	4 57	24.314	58	55	24.254	55	46	44	0	0	0	....	Hazy	....	Cumulus..	2-4	N. E.	......	......	......	Fair.
2...		24.985	67	62.5	24.927	62	50	36.4	N. W.	12	.72	....	Stratus ...	1-4	Cumulus..	2-4	W.	......	......	......	Fair.
3...		26.452	72.5	71.5	26.359	71.5	57.5	37.3	S. W.	6	.18	....	Hazy	....	Cumulus..	3-4	N.	......	......	......	Fair.
4...		27.680	76.5	73	27.552	73	58	34.9	W.	2	.02	....	0	0	Cumulus..	3-4	N.	......	......	......	Cloudy.
Station 1...	6 0	24.320	58	56	24.260	56	47	45	0	0	0	....	Hazy	....	Cumulus..	2-4	N. E.	......	......	......	Fair.
2...		24.983	67	62.5	24.945	62	51	41.2	W.	6	.18	....	Stratus ...	1-4	Cumulus..	1·4	W.	......	......	......	Fair.
3...		26.456	72.5	68.5	26.363	68.5	56.5	42.8	S. W.	6	.18	....	Hazy	....	Cumulus..	3-4	N. E.	......	......	......	Fair.
4...		27.689	76.5	72	27.561	72	58	37.8	S. W.	2	.02	....	Stratus ...	1-4	Cumulus..	2·4	N.	......	......	......	Cloudy.
Station 1...	7 0	24.320	60	52	24.256	52	46	59	0	0	0	....	Hazy	....	Cumulus..	1-8	N. E.	......	......	......	Clear.
2...		25.010	77	60	24.930	59.5	50	46.3	W.	8	.32	....	Stratus ...	1-4	Cirrus	1-4	W.	......	......	......	Fair.
3...		26.400	76	68	26.359	68	55.5	39.8	S. W.	4	.08	....	0	0	Cumulus..	1·4	....	......	......	......	Clear.
4...		27.681	72.5	63	27.563	63	56.5	64.4	S. W.	1	.01	...	Stratus ...	1-4	0	0	....	......	......	......	Fair.
Station 1...	8 0	24.318	63	51	24.247	51	45	59	W.	6	.18	....	Hazy	....	0	0	....	......	......	......	Clear.
2...		24.998	65	54.5	24.944	54	47	55.2	S. W.	10	.50	....	Stratus ...	1-4	Cirrus	1-4	....	......	......	......	Fair.
3...		26.470	75.5	61	26.370	61	53	55.3	S W.	1	.01	....	0	0	0	0	....	......	......	......	Clear.
4...		27.680	68	61	27.573	62	54	56.1	S. W.	4	.08	....	Stratus ...	1-4	0	0	....	......	......	......	Fair.
Station 1...	9 0	24.320	63	50	24.249	50	45	64	0	0	0	....	Hazy	....	0	0	....	......	......	......	Clear.
2...		24.975	58	53	24.937	53	46.5	57.4	W.	8	.32	....	Stratus ...	1-4	0	0	....	......	......	......	Fair.
3...		26.465	72.5	60	26.372	60	52	54.6	S. W.	1	.01	....	0	0	0	0	....	......	......	......	Clear.
4...		27.675	67	58	27.570	59	52	59.2	S.	4	.08	....	0	0	0	0	....	......	......	......	Clear.
Station 1...	10 0	24.318	65	49	24.243	49	44	64	N. W.	18	1.62	....	0	0	0	0	....	......	......	......	Clear, (aurora.)
2...		24.972	61	52	24.927	51.5	46	62.6	W.	11	.60	....	Stratus ...	1-4	0	0	....	......	......	......	Fair.
3...		26.449	66.5	58.5	26.360	58.5	51	56.1	0	0	0	....	0	0	0	0	....	......	......	......	Clear.
4...		27.671	66	57	27.569	58	51	58.4	S. W.	4	.08	....	0	0	0	0	....	......	......	......	Clear.

Meteorological record for June 25, 1873—Continued.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from —)	Comm'en'd.	Ended.		
	p. m.																				
Station 1...	11 0	24.305	63	48	24.234	48	44	71	N. W.	20	2.00	....	Stratus ...	1-8	0	0	....	....	....	....	Clear, (aurora.)
2...		24.958	57	51	24.922	51	45.5	62.2	W.	8	.32	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
3...		26.440	68	58	26.357	58	51	58.4	0	0	0	....	0	0	0	0	....	....	....	....	Clear.
4...		27.662	65	55	27.562	56	51	68.7	S. W.	4	.08	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	12 0 mid-night.	24.300	61	48	24.234	48	44	71	N. W.	12	.72	....	Stratus ...	1-8	0	0	....	....	....	....	Clear, (aurora.)
2...		24.952	56	50	24.919	50	45	64.6	W.	5	.12	170	Stratus ...	1-4	0	0	....	....	....	....	Fair.
3...		26.430	66	58	26.352	58	51	58.4	0	0	0	53	0	0	0	0	....	....	....	....	Clear.
4...		27.660	65	55	27.560	56	51	68.7	S. W.	4	.08	....	0	0	0	0	....	....	....	....	Clear.

Meteorological record for June 26, 1873.

Place of observation.	Time of observation.	Barometer.	Attached.	Exposed.	Corrected barometer.	Dry bulb.	Wet bulb.	Relative humidity.	Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Lower clouds: Kind.	Amount.	Upper clouds: Kind.	Amount.	Direction, (moving from —)	Comm'en'd.	Ended.	Amount of rain or melted snow.	Remarks
	a. m.																				
Station 1...	1 0	24.300	59	48	24.238	48	44	71	N. W.	8	.32	....	Stratus ...	1-8	0	0	....	....	....	....	Clear, (aurora.)
2...		24.945	56	49.5	24.912	49.5	45	67.6	0	0	0	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
3...		26.430	63.5	57	26.358	57	50	57.7	0	0	0	....	0	0	0	0	....	....	....	....	Clear.
4...		27.640	64	55	27.543	56	51	68.7	S. E.	4	.08	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	2 0	24.295	58	48	24.236	48	43	62	N. W.	5	.12	....	Stratus ...	1-8	0	0	....	....	....	....	Clear, (aurora.)
2...		24.958	63	50	24.909	50	45.5	68.0	S. W.	7	.24	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
3...		26.440	67.5	56	26.359	56	50	62.7	0	0	0	....	0	0	0	0	....	....	....	....	Clear.
4...		27.640	64	55	27.543	56	51	68.7	S.	4	.08	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	3 0	24.295	57	48	24.238	48	43	62	N. W.	6	.18	....	Stratus ...	1-8	0	0	....	....	....	....	Clear.
2...		24.975	68	49.5	24.915	49.5	45.5	71.3	S. W.	2	.02	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
3...		26.450	68	50	26.368	50	49	92.7	0	0	0	....	0	0	0	0	....	....	....	....	Clear.
4...		27.650	64	53.5	27.553	54	50	73.8	S.	4	.08	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	4 0	24.290	56	46	24.235	46	43	76	N. W.	5	.12	....	Stratus ...	1-8	Cirro-strat	1-16	....	....	....	....	Fair.
2...		24.995	70	48.5	24.933	48.5	44.5	70.7	S. W.	2	.02	....	Stratus ...	1-4	Cirrus	1-4	....	....	....	....	Fair.
3...		26.460	69.5	54	26.374	54	49	67.4	0	0	0	....	0	0	0	0	....	....	....	....	Clear.
4...		27.650	62	54	27.558	54.5	50	70.9	S. E.	4	.08	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	5 0	24.290	55	47	24.237	47	44	77	N.	8	.32	....	Stratus ...	1-8	Cirro-strat	1-16	....	....	....	....	Fair.
2...		24.969	63	49.5	24.920	49.5	46	74.8	W.	5	.12	....	Stratus ...	2-4	Cirrus	1-4	....	....	....	....	Fair.
3...		26.470	67.5	55	26.489	55	50	70.8	S. W.	1	.01	....	0	0	Cirrus	3-4	N. E.	....	....	....	Fair.
4...		27.650	59	54	27.565	54.5	50	70.9	S. E.	4	.08	....	0	0	Cirrus ...	3-4	....	....	....	....	Fair.
Station 1...	6 0	24.285	58	49	24.230	49	44	63	N. W.	10	.50	....	Stratus ...	1-8	Cirro-strat	1-16	....	....	....	....	Fair.
2...		24.985	69	54	24.923	53.5	48.5	67.0	W.	6	.18	....	Stratus ...	1-4	Cirrus	1-4	....	....	....	....	Fair.
3...		26.460	67.5	55	26.379	55	50	70.8	S. W.	1	.01	....	Smoky	....	Cirrus	2-4	N. E.	....	....	....	Fair.
4...		27.652	59	55	27.567	56	51	68.7	S. E.	4	.08	....	0	0	Cirrus ...	2-4	....	....	....	....	Fair.

Station 1...	7 0	24.300	60	51	24.236	51	44	64	N. W.	5	.12	....	Hazy	....	Cirro.-strat	1-8	....	....	....	....	Fair.
2...		24.985	69	56	24.923	55.5	49.5	62.3	W.	2	.02	....	Stratus	1-4	Cirrus	1-4	N.	....	....	....	Fair.
3...		26.460	68	57	26.377	57	52	69.2	S. W.	1	.01	....	Smoky	....	Cirrus	2-4	N. E.	....	....	....	Fair.
4...		27.670	62	59	27.578	60	55	70.8	S. E.	4	.08	....	0	0	Cirrus	2-4	....	....	....	....	Fair.
Station 1...	7 57	24.301	61	56	24.235	56	47	45	N. W.	8	.32	...	Hazy	....	Cirrus	1-4	....	....	....	....	Fair.
2...		24.987	70	57.5	24.922	56	54.5	90.3	W.	2	.02	....	Hazy	....	Cirrus	2-4	N.	....	....	....	Fair.
3...		26.458	69	59	26.373	59	53	64.7	W.	1	.01	....	Smoky	....	Cirrus	2-4	N. E.	....	....	....	Fair.
4...		27.670	63	64	27.575	64.5	54.5	48.3	0	0	0	....	0	0	Cirrus	1-4	....	....	....	....	Clear.
Station 1...	9 0	24.310	61	55	24.244	55	48	61	N. W.	12	.72	....	Hazy	....	Cirrus	2-4	N. W.	....	....	....	Fair.
2...		24.980	67	58	24.922	57.5	51	63.4	W.	7	.24	....	Hazy	....	Cirrus	2-4	N.	....	....	....	Fair.
3...		26.440	66	61.5	26.362	61.5	54.5	60.9	N. W.	2	.02	....	Smoky	....	Cirrus	2-4	E.	....	....	....	Fair.
4...		27.671	64	67	27.574	67	57	50.3	N. W.	2	.02	....	0	0	Cirrus	2-4	....	....	....	....	Fair.
Station 1...	10 0	24.310	61	56	24.244	56	50	62	N. W.	8	.32	....	Hazy	....	Cirrus	2-4	N. W.	....	....	....	Fair.
2...		24.987	65	59.5	24.933	59	51.5	56.5	W.	11	.60	....	Hazy	....	Cirrus	3-4	N.	....	....	....	Fair.
3...		26.448	66	63	26.370	63	55	56.8	N. W.	4	.08	....	Smoky	....	Cirrus	2-4	E.	....	....	....	Fair.
4...		27.678	66	69	27.576	69	57	43.2	N. W.	4	.08	....	Hazy	....	Cirrus	3-4	....	....	....	....	Fair.
Station 1...	11 0	24.310	61	57	24.244	57	50	57	N. W.	8	.32	....	Hazy	....	Cirrus	2-4	W.	....	....	....	Fair.
2...		24.978	65	61	24.924	60	52	54.6	W.	6	.18	....	Stratus	1-4	Cirrus	2-4	N. E.	....	....	....	Fair.
3...		26.430	66	65	26.352	65	55.5	51.0	N. W.	1	.01	....	Smoky	....	Cirrus	3-4	N. W.	....	....	....	Fair.
4...		27.670	69	70	27.560	71	58	40.8	N.	4	.08	....	Hazy	....	Cirrus	3-4	....	....	....	....	Fair.
Station 1...	12 m.	24.300	61	57	24.234	57	49	52	0	0	0	....	Hazy	....	Cirrus	1-4	....	....	....	....	Fair.
2...		24.960	70	64	24.895	63	53	47.0	W.	11	.60	....	Stratus	1-4	Cirrus	2-4	E.	....	....	....	Fair.
3...		26.412	67	67	26.332	67	56	45.9	N. W.	3	.04	....	Smoky	....	Cirrus	2-4	....	....	....	....	Fair.
4...		27.644	72	74	27.527	74	60	39.5	N. W.	4	.08	88	Hazy	....	Cirrus	3-4	....	....	....	....	Fair.
Station 1..	p. m. 1 0	24.280	62	59	24.212	59	50	48	N. W.	8	.32	....	Hazy	....	Cirrus	1-4	....	....	....	....	Fair.
2...		24.960	75	65	24.884	64	53	43.2	W.	12	.72	....	Stratus	1-4	Cirrus	2-4	E.	....	....	....	Fair.
3...		26.390	68	71	26.307	71	57.5	38.8	W.	8	.32	....	Smoky	....	Cumulus	1-4	....	....	....	....	Fair.
4...		27.628	74	75	27.506	75	57.5	27.8	W.	4	.08	....	Cumulus	1-4	Cirrus	2-4	....	....	....	....	Fair.
Station 1...	2 0	24.275	62	59	24.207	59	50	48	N. W.	10	.50	....	Hazy	....	Cirrus	1-4	....	....	....	....	Fair.
2...		24.939	70	66	24.874	64.5	53	41.3	W.	16	1.28	....	Stratus	1-4	Cirrus	2-4	E.	....	....	....	Fair.
3...		26.380	70.5	72	26.292	72	58.5	39.7	W.	7	.24	....	Smoky	....	Cumulus	1-4	....	....	....	....	Clear.
4...		27.611	77	78	27.482	78	62	35.7	S. W.	4	.08	....	Cumulus	1-4	Cirrus	2-4	....	....	....	....	Fair.
Station 1...	3 0	24.254	62	58	24.186	58	50	53	N. W.	6	.32	....	Hazy	....	Cirrus	1-4	N. W.	....	....	....	Fair.
2...		24.988	69	67	24.926	66	54	40.5	W.	12	.72	....	Stratus	1-4	Cirrus	2-4	....	....	....	....	Fair.
3...		26.375	73	73	26.272	73	59	38.7	W.	7	.24	....	Smoky	....	Cirrus	1-4	....	....	....	....	Clear.
4...		27.602	80	76.5	27.466	77	61	34.9	W.	6	.18	....	Cumulus	1-8	Cirrus	2-4	....	....	....	....	Fair.
Station 1..	4 0	24.240	62	57	24.173	57	49	52	N. W.	4	.08	....	Hazy	....	Cirrus	2-4	N. W.	....	....	....	Fair.
2...		24.909	69	65.5	24.847	65	53	39.5	W.	12	.72	....	Stratus	1-4	Cirrus	1-4	W.	....	....	....	Fair.
3...		26.365	74	73	26.269	73	59	38.7	W.	10	.50	....	Smoky	....	Cirrus	1-4	N. W.	....	....	....	Fair.
4...		27.592	82	75.5	27.451	76	60	34.0	N. W.	8	.32	....	Hazy	....	Cirrus	2-4	N. W.	....	....	....	Fair.
Station 1...	5 57	24.210	62	57	24.143	57	49	52	W.	14	.98	....	Hazy	....	Cirrus	2-4	W.	....	....	....	Fair.
2...		24.890	69	64	24.828	63	53.5	58.0	N. W.	22	2.42	....	Stratus	1-4	Cirrus	2-4	N. E.	....	....	....	Fair.
3...		26.355	74	72	26.259	72	60	45.7	W.	5	.12	....	Smoky	...	Cirrus	1-4	N. W.	....	....	....	Fair.
4...		27.589	82	73	27.448	73	60	42.5	W.	8	.32	....	Cumulus	1-8	Cirrus	2-4	N. W.	....	....	....	Fair.
Station 1...	6 0	24.200	61	57	24.135	57	49	52	W.	16	1.28	....	Hazy	....	Cirrus	2-4	W.	....	....	....	Fair.
2..		24.895	77	64	24.815	63	54	51.9	N. W.	14	.98	....	Hazy	...	Cirrus	2-4	N.	....	....	....	Fair.
3...		26.345	73	70	26.252	70	58	44.1	W.	6	.18	....	Smoky	....	Cirrus	1-4	N. W.	....	....	....	Fair.
4...		27.575	82.5	72	27.433	72	59.5	43.7	S. W.	6	.18	....	Hazy	....	Cirrus	2-4	N.	....	....	....	Fair.
Station 1...	7 0	24.158	60	55	24.095	55	49	62	N. W.	24	2.88	....	Hazy	....	Cirrus	1-4	W.	....	....	....	Fair.
2...		24.865	73	60.5	24.794	60.5	52.5	54.6	N. W.	29	4.20	....	Hazy	....	Cirrus	2-4	N. E.	....	....	....	Fair.
3...		26.331	75.5	68	26.231	68	56.5	44.5	N. W.	4	.08	....	Smoky	....	Cirrus	1-4	N.	....	....	....	Fair.
4...		27.548	76	66	27.421	66	59	63.6	N. W.	2	.02	....	0	0	Cirrus	1-4	N.	....	....	....	Fair.

Meteorological record for June 26, 1873—Continued.

Place of observation.	Time of observation.	Barometer.	THERM. Attached.	THERM. Exposed.	Corrected barometer.	HYGROM. Dry bulb.	HYGROM. Wet bulb.	Relative humidity.	WIND. Direction.	WIND. Velocity per hour.	WIND. Pressure per sq. ft.	WIND. Daily velocity.	LOWER CLOUDS. Kind.	LOWER CLOUDS. Amount.	UPPER CLOUDS. Kind.	UPPER CLOUDS. Amount.	UPPER CLOUDS. Direction, (moving from—)	RAIN OR SNOW. Commen'd.	RAIN OR SNOW. Ended.	Amount of rain or melted snow.	Remarks.
Station 1...	p. m. 8 0	24. 140	61	52	24. 075	52	46	59	N. W.	22	2. 42	....	Hazy	....	Cirrus	1-4	N. W.	....	....	....	Fair.
2...		24. 827	61	55	24. 782	54. 5	48	58. 7	W.	27	3. 64	....	Stratus ...	1-4	Cirrus	1-4	N. E.	....	....	....	Fair.
3...		26. 322	75	62	26. 230	62	54	56. 1	N. W.	4	. 08	....	Smoky....	....	Cirrus	1-4	....	....	....	....	Clear.
4...		27. 532	71. 5	61. 5	27. 417	62. 5	56. 5	66. 7	N.	4	. 08	....	0	0	Cirrus	1-4	....	....	....	....	Fair.
Station 1...	9 0	24. 134	60	51	24. 071	51	45	59	N. W.	26	3. 38	....	Hazy	....	0	0	....	....	....	....	Clear.
2...		24. 815	60	53. 5	24. 773	53. 5	47	57. 9	W.	20	2. 00	....	Stratus ...	1-4	Cirrus	1-4	N. E.	....	....	....	Fair.
3...		26. 315	72. 5	61	26. 222	61	53	55. 3	W.	5	. 12	....	0	0	0	0	....	....	....	....	Clear.
4...		27. 520	69	58. 5	27. 410	59	53	64. 7	N.	4	. 08	..	0	0	0	0	....	....	....	....	Clear.
Station 1...	10 0	24. 123	58	51	24. 065	51	45	59	N. W.	29	4. 20	....	Hazy	....	0	0	....	....	....	....	Clear, (aurora.)
2...		24. 810	58	52	24. 772	52	45. 5	62. 2	W.	19	1. 80	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
3...		26. 205	66. 5	59. 5	26. 217	59. 5	51	51. 5	W.	4	. 08	....	0	0	0	0	....	....	....	....	Clear.
4...		27. 503	69. 5	57	27. 392	58	51. 5	61. 2	N.	4	. 08	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	11 22	24. 112	57	50	24. 056	50	45	64	N. W.	30	4. 50	....	0	0	0	0	....	....	....	....	Clear, (aurora.)
2...		24. 782	54	51. 5	24. 753	51. 5	45	50. 8	W.	19	1. 80	....	Hazy	....	0	0	....	....	....	....	Clear.
3...		26. 278	66	59	26. 201	59	51	53. 7	N. W.	4	. 08	....	0	0	0	0	....	....	....	....	Clear.
4...		27. 49	64	56. 5	27. 393	57	50. 5	60. 4	N.	4	. 08	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	12 0 mid-night.	24. 100	56	49	24. 046	49	44	64	N. W.	36	6. 48	....	0	0	0	0	....	....	....	....	Clear, (aurora.)
2...		24. 780	53	50	24. 753	50	44. 5	61. 5	W.	18	1. 62	310	Stratus ...	1-4	0	0	....	....	....	....	Clear.
3...		26. 282	64. 5	58	26. 208	58	50. 5	59. 3	N. W.	2	. 02	68	0	0	0	0	....	....	....	....	Clear.
4...		27. 490	63. 5	56	27. 394	57	51	63. 4	N. E.	4	. 08	....	0	0	0	0	....	....	....	....	Clear.

Meteorological record for June 27, 1873.

Place of observation.	Time of observation.	Barometer.	THERM. Attached.	THERM. Exposed.	Corrected barometer.	HYGROM. Dry bulb.	HYGROM. Wet bulb.	Relative humidity.	WIND. Direction.	WIND. Velocity per hour.	WIND. Pressure per sq. ft.	WIND. Daily velocity.	LOWER CLOUDS. Kind.	LOWER CLOUDS. Amount.	UPPER CLOUDS. Kind.	UPPER CLOUDS. Amount.	UPPER CLOUDS. Direction, (moving from—)	RAIN OR SNOW. Commen'd.	RAIN OR SNOW. Ended.	Amount of rain or melted snow.	Remarks.
Station 1...	a. m. 1 0	24. 100	56	49	24. 046	49	44	64	N. W.	32	5. 12	....	Hazy	....	0	0	....	....	....	....	Clear.
2...		24. 782	55	49	24. 751	49	44	63. 8	W.	20	2. 00	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
3...		26. 260	62. 5	55	26. 192	55	48. 5	59. 0	0	0	0	....	0	0	0	0	....	....	....	....	Clear.
4...		27. 470	63	55	27. 375	56	50	62. 7	N. E.	4	. 08	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	2 0	24. 100	55	47	24. 048	47	43	69	N. W.	20	2. 00	....	Hazy	....	0	0	....	....	....	....	Clear.
2...		24. 797	67	49	24. 781	49	44	63. 8	W.	13	. 84	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
3...		26. 250	61. 5	55	26. 185	55	48	56. 1	0	0	0	....	0	0	0	0	....	....	....	....	Clear.
4...		27. 455	62	54	27. 363	54. 5	49	64. 7	E.	4	. 08	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	3 0	24. 094	55	47	24. 042	47	43	69	N. W.	14	. 98	....	0	0	0	0	....	....	....	....	Clear.
2...		24. 770	63	49	24. 721	49	44. 5	67. 3	S. W.	12	. 72	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
3...		26. 23	60	52	26. 167	52	47	66. 0	N. W.	2	. 02	....	0	0	0	0	....	....	....	....	Clear.
4...		27. 445	62	52	27. 353	52. 5	48	60. 6	N. E.	4	. 08	....	0	0	0	0	....	....	....	....	Clear.

Station 1	4 0	24.090	55	47	24.038	47	43	69	N. W.	12	.72		Hazy		Cirro-strat.	1-8					Clear.
2		24.755	51	48.5	24.733	48.5	43	60.2	S. W.	12	.72		Stratus	1-4	Cirrus	2-4	S. W.				Fair.
3		26.220	59	52	26.160	52	47	66.0	0	0	0		0	0	0	0					Clear.
4		27.445	62	51.5	27.353	52	48	72.7	N. E.	4	.08		0	0	0	0					Clear.
Station 1	5 0	24.090	54	47	24.040	47	43	69	N. W.	10	.50		Hazy		Cirro-strat.	1-8					Clear.
2		24.750	59	49	24.710	49	44.5	67.3	S.	16	.84		Stratus	1-4	Cirrus	2-4					Fair.
3		26.220	58	52	26.162	52	47	66.0	0	0	0		0	0	Cirrus	2-4	N. E.				Fair.
4		27.445	61	51	27.355	51.5	49	82.6	N. E.	4	.08		0	0	Cirrus	2-4					Fair.
Station 1	6 0	24.070	55	49	24.018	49	43	57	N. W.	10	.50		Hazy		Cirro-strat.	1-8					Clear.
2		24.759	61	51.5	24.714	51	46	65.3	S. W.	14	.98		Stratus	1-4	Cirrus	2-4					Fair.
3		26.220	61.5	53	26.155	53	48	66.7	0	0	0		Smoky		Cirrus	2-4	N. E.				Fair.
4		27.440	60	51	27.353	52	50.5	89.6	N. E.	4	.08		0	0	Cirrus	1-4					Fair.
Station 1	7 0	24.070	59	51	24.010	51	39	21	N. W.	6	.18		Smoky		Cirro-strat.	1-8					Clear.
2		24.745	64	53.5	24.695	53	44	42.3	S.	14	.98		Stratus	1-4	Cirrus	2-4					Fair.
3		26.215	68.5	55	26.133	55	49	62.0	0	0	0		Smoky		Cirrus	1-4	N. E.				Fair.
4		27.415	59	58	27.330	58	53	69.8	N. E.	4	.08		0	0	Cirrus	1-4					Fair.
Station 1	7 57	24.065	60	52	24.002	52	41	28	N. W.	5	.12		Smoky		Cirro-strat.	1-4					Fair.
2		24.738	63	54.5	24.690	54.5	50.5	73.8	S. W.	8	.32		Stratus	1-4	Cirrus	2-4					Fair.
3		26.215	71	58	26.127	58	51	58.4	W.	2	.02		Smoky		Cirrus	1-4					Fair.
4		27.407	62	63	27.315	64	54	47.9	N. E.	1	.01		Hazy		Cirrus	3-4					Fair.
Station 1	9 0	24.065	58	57	24.007	56	42	16	0	0	0		Hazy		Cirro-strat.	1-4					Fair.
2		24.728	61	58	24.685	57.5	47	39.0	S. W.	11	.60		Stratus	1-4	Cirrus	2-4					Fair.
3		26.190	68	62	26.109	62	53	51.1	W.	2	.02		Smoky		Cirrus	2-4					Fair.
4		27.397	63	66	27.302	67	54	37.1	N. E.	2	.02		Hazy		Cirrus	2-4					Fair.
Station 1	10 0	24.052	58	56	23.994	56	42	16	0	0	0		Hazy		Cirro-strat.	2-4					Fair.
2		24.719	61	60	24.676	60	49	39.2	W.	10	.50		Stratus	1-4	Cirrus	2-4					Fair.
3		26.170	66	65	26.094	65	54	44.1	W.	4	.08		Smoky		Cirrus	2-4					Fair.
4		27.380	65	69	27.280	70	56.5	37.9	W.	4	.08		Hazy		Cirrus	2-4					Fair.
Station 1	11 0	24.045	59	59	24.985	59	50	48	N. W.	2	.02		Hazy		Cirro-strat.	1-4					Fair.
2		24.710	61	62	24.667	61.5	52	48.1	W.	22	2.42		Stratus	1-4	Cirrus	2-4					Fair.
3		26.159	66	66	26.083	66	56	49.5	W.	4	.08		Smoky		Cirrus	1-4					Fair.
4		27.371	67	71	27.266	71	58	40.8	S. W.	6	.18		0	0	Cirrus	1-4	N.				Clear.
Station 1	12 m.	24.030	61	59	24.965	59	50	48	N. W.	10	.50		Hazy		Cirro-strat.	1-8					Clear.
2		24.693	65	63	24.641	62	53	51.1	W.	13	.84		Stratus	1-4	Cirrus	1-4					Fair.
3		26.140	67	67	26.062	67	57	50.3	N. W.	8	.32		Smoky		0	0					Clear.
4		27.359	71	73	27.245	73.5	59	37.2	W.	4	.08	105	0	0	0	0					Clear.
	p. m.																				
Station 1	1 0	24.010	62	58	23.943	58	49	47	N. W.	10	.50		Hazy		Cirro-strat	1-8					Clear.
2		24.698	71	63.5	24.733	63	53	47.0	W.	28	3.92		0	0	Cirrus	1-4					Fair.
3		26.130	68	70	26.049	70	58	44.1	N. W.	6	.18		Smoky		0	0					Clear.
4		27.351	73.5	74	27.231	74	58	32.2	W.	5	.12		0	0	Cumulus	1-8					Clear.
Station 1	2 0	23.995	62	58	23.928	58	48	42	N. W.	12	.72		Hazy		Cirro-strat.	1-8					Clear.
2		24.669	66	65	24.615	65	53	39.5	W.	24	2.88		0	0	Cirrus	1-4					Fair.
3		26.105	70	72	26.020	72	58	37.8	N. W.	5	.12		Smoky		0	0					Clear.
4		27.322	77	76	27.193	76	61	37.5	N. W.	6	.18		0	0	0	0					Clear.
Station 1	3 0	23.985	62	57	23.918	57	49	42	N. W.	12	.72		Hazy		Cirro-strat	1-8					Clear.
2		24.639	66	65	24.585	65	53	39.5	W.	25	3.12		0	0	Cirrus	1-4					Fair.
3		26.095	72	73	26.005	73	59	38.7	N. W.	7	.24		Smoky		0	0					Clear.
4		27.300	77	76	27.171	76	60.5	35.7	S. W.	6	.18		0	0	Cumulus	1-8					Clear.

Meteorological record for June 27, 1873—**Continued.**

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		
Station 1...	*p. m.* 4 0	23.960	62	57	23.893	57	49	52	N. W.	10	.50	....	Hasy	....	Cirrus	1-4	....	....	....	....	Clear.
2...		24.621	67	66	24.565	66	55	45.0	W.	23	2.64	....	0	0	Cirrus	1-4	....	....	....	....	Fair.
3...		26.075	74	73	25.98	73	60	42.5	N. W.	6	.18	....	Smoky	....	Cumulus	1-4	....	....	....	....	Clear.
4...		27.285	79	75	27.151	75	61	40.3	N. W.	6	.18	....	0	0	Cumulus	1-8	....	....	....	....	Clear.
Station 1...	4 57	23.925	62	55	23.858	55	49	61	N. W.	24	2.88	....	0	0	0	0	....	....	....	....	Clear.
2...		24.609	69	65	24.546	65	54	44.1	W.	27	3.64	....	0	0	Cirrus	1-4	....	....	....	....	Fair.
3...		26.060	74	72	25.965	72	60	45.7	N. W.	5	.12	....	Smoky	....	Cumulus	1-4	....	....	....	....	Clear.
4...		27.269	80.5	74	27.132	74	60	30.5	W.	8	.32	....	0	0	Cumulus	1-4	N.	....	....	....	Fair.
Station 1...	6 0	23.905	61	54	23.840	54	49	67	W.	29	4.20	....	Smoke	....	Cumulus	1-4	W.	....	....	....	Fair.
2...		24.591	71	62	24.526	61.5	53	53.2	W.	23	2.64	....	Stratus	1-4	Cirrus	1-4	....	....	....	....	Fair.
3...		26.052	74	70.5	25.957	70.5	60	50.7	W.	5	.12	....	Smoky	....	Cumulus	1-4	....	....	....	....	Clear.
4...		27.260	80	73	27.124	73	61	46.4	W.	4	.08	....	0	0	Cumulus	2-4	N.	....	....	....	Fair.
Station 1...	7 0	23.885	60	53	23.822	53	49	72	W.	30	4.50	....	Smoke	....	Cumulus	1-4	W.	....	....	....	Fair.
2...		24.579	70	58.5	24.516	58.5	52.5	64.4	W.	23	2.64	....	Stratus	1-4	Cirrus	2-4	W.	....	....	....	Fair.
3...		26.040	76	67	25.941	67	58	55.0	W.	2	.02	....	Smoky	....	Cirrus	1-4	....	....	....	....	Fair.
4...		27.232	74	67	27.112	67	60	64.2	W.	2	.02	....	Stratus	1-4	Cirrus	1-4	N.	....	....	....	Fair.
Station 1...	8 0	23.860	60	53	23.797	53	49	72	W.	30	4.50	....	Smoke	....	Cumulus	2-4	W.	....	....	....	Fair.
2...		24.557	61	55.5	24.514	55.5	51.5	74.6	W.	25	3.12	....	Stratus	1-4	Cirrus	2-4	W.	....	....	....	Fair.
3...		26.040	78.5	62	25.935	62	56	66.5	N. W.	2	.02	....	Smoky	....	Cirro-cum.	1-4	N. W.	....	....	....	Fair.
4...		27.218	72	65	27.103	65.5	58	60.9	W.	3	.04	....	Stratus	1-4	Cirro-cum.	2-4	N.	....	....	....	Cloudy.
Station 1...	9 0	23.868	60	52	23.805	52	49	79	W.	36	6.48	....	Hazy	....	Cirro-cum.	1-4	W.	....	....	....	Fair.
2...		24.543	59	55	24.504	55	51	74.3	W.	29	4.20	....	Stratus	1-4	Cirrus	1-4	W.	....	....	....	Fair.
3...		26.030	73	62	25.938	62	56	66.5	W.	5	.12	....	Smoky	....	Cirro-cum.	1-4	N. W.	....	....	....	Fair.
4...		27.215	71.5	62.5	27.101	63	56	61.9	S. W.	4	.08	....	Stratus	1-4	Cirro-cum.	2-4	N.	....	....	....	Cloudy.
Station 1...	10 0	23.842	60	52	23.779	52	49	79	W.	40	8.00	....	Hazy	....	Cumulus	1-4	W.	....	....	....	Fair.
2...		24.543	60	54.5	24.502	54.5	51	77.2	W.	30	4.50	....	Stratus	2-4	Cirrus	1-4	W.	....	....	....	Fair.
3...		26.002	65.5	61	25.927	61	55.5	68.6	W.	4	.08	....	Smoky	....	Cirro-cum.	1-4	N. W.	....	....	....	Fair.
4...		27.205	71.5	61.5	27.091	62.5	56	64.1	S. E.	4	.08	....	Stratus	1-8	0	0	....	....	....	....	Clear.
Station 1...	11 22	23.835	60	51	23.772	51	49	86	W.	28	3.92	....	Stratus	1-8	0	0	....	....	....	....	Clear.
2...		24.515	58	54	24.478	54	51.5	83.4	W.	25	3.12	....	Stratus	1-4	0	0	....	....	....	....	Fair.
3...		25.990	65.5	61	25.915	61	56	71.3	N. W.	2	.02	....	Smoky	....	Cumulus	1-4	N. E.	....	....	....	Fair.
4...		27.185	68	61	27.080	62	56	66.5	S. W.	2	.02	....	Stratus	1-4	0	0	....	....	....	....	Fair.
Station 1...	12 m.	23.835	60	51	23.772	51	49	86	W.	34	5.78	....	Stratus	2-4	0	0	....	....	....	....	Clear.
2...		24.513	57	53.5	24.479	53.5	51.5	86.5	W.	20	2.00	470	Stratus	2-4	0	0	....	....	....	....	Fair.
3...		25.980	65.5	60	25.905	60	56	76.5	N. W.	2	.02	88	Stratus	3-4	Hidden	....	....	....	....	....	Cloudy.
4...		27.180	67.5	61	27.076	61.5	56	68.9	S. W.	4	.08	....	Stratus	1-4	0	0	....	....	....	....	Fair.

Meteorological record for June 28, 1873.

	a. m.																					
Station 1...	1	0	23.830	59	51	23.770	51	49	86	W.	36	6.49	....	Stratus	4-4	Hidden						Cloudy.
2...			24.490	57	53.5	24.456	53.5	52	89.9	W.	16	1.28	....	Stratus	3-4	0	0					Fair.
3...			25.950	65	61	25.876	61	57	76.9	W.	5	.12	....	Stratus	4-4	Hidden						Cloudy.
4...			27.140	67	65	27.037	65.5	58	65.3	S. E.	4	.08	....	Stratus	3-4	Hidden						Cloudy.
Station 1...	2	0	23.820	59	51	23.760	51	49	86	N. W.	30	4.50	....	Stratus	4-4	Hidden						Cloudy.
2...			24.475	59	53.5	24.436	53.5	52	89.9	W.	23	2.64	....	Stratus	4-4	Hidden						Cloudy.
3...			25.945	64	61	25.874	61	57	76.9	W.	2	.02	....	Stratus	4-4	Hidden						Cloudy.
4...			27.120	69	63	27.112	63.5	58.5	72.5	S. E.	2	.02	....	Stratus	4-4	Hidden						Cloudy.
Station 1...	3	0	23.800	59	51	23.740	51	49	86	N. W.	28	3.92	....	Stratus	4-4	Hidden						Cloudy.
2...			24.468	60	53	24.427	53	52.5	96.5	W.	22	2.42	....	Stratus	4-4	Hidden						Cloudy.
3...			25.920	64	61	25.849	61	57	76.9	0	0	0	...	Stratus	4-4	Hidden						Cloudy.
4...			27.105	68	62	27.000	62.5	58.5	77.4	N. E.	2	.02	....	Stratus	3-4	Hidden						Cloudy.
Station 1...	4	0	23.800	59	51	23.740	51	49	86	N. W.	30	4.50	....	Stratus	4-4	Hidden						Cloudy.
2...			24.450	58	53.5	24.413	53.5	53.5	100	W.	18	1.62	....	Stratus	4-4	Hidden						Cloudy.
3...			25.920	64	60	25.849	60	57	82.2	N. W.	2	.02	....	Stratus	4-4	Hidden						Cloudy.
4...			27.088	68	62	26.983	62.5	58.5	77.4	N. E.	2	.02	....	Stratus	3-4	Hidden						Cloudy.
Station 1...	5	0	23.790	59	52	23.730	52	51	91	N. W.	24	2.88	....	Stratus	4-4	Hidden						Cloudy.
2...			24.445	57	53.5	24.411	53.5	53.5	100	W.	17	1.44	....	Stratus	4-4	Hidden						Cloudy.
3...			25.915	63	59	25.849	59	57	87.8	N. W.	4	.08	....	Stratus	4-4	Hidden						Threatening.
4...			27.100	67	62.5	26.997	63	59	77.6	0	0	0	....	Stratus	4-4	Hidden						Cloudy.
Station 1...	6	0	23.785	59	52	23.725	52	52	100	N. W.	20	2.00	....	Nimbus	4-4	Hidden			5.30 a. m.			Light rain.
2...			24.440	58	54	24.403	54	53.5	96.9	W.	23	2.64	....	Nimbus	4-4	Hidden			5.47 a. m.			Light rain.
3...			25.010	63	59	25.841	59	58	93.9	N. W.	4	.08	....	Nimbus	4-4	Hidden			5.45 a. m.			Light rain.
4...			27.108	66	63.5	27.008	64	60.5	80.6	0	0	0	....	Nimbus	4-4	Hidden			6.05 a. m.			Misting.
Station 1...	7	0	23.792	59	52	23.732	52	52	100	N. W.	24	2.88	....	Nimbus	4-4	Hidden						Light rain.
2...			24.450	62	54	24.405	54	54	100	W.	18	1.62	....	Nimbus	4-4	Hidden						Light rain.
3...			25.890	63	58	25.821	58	58	100	W.	4	.08	....	Nimbus	4-4	Hidden						Light rain.
4...			27.109	66	62.5	27.009	63	61	88.6	N. E.	1	.01	....	Nimbus	4-4	Hidden						Light rain.
Station 1...	7	57	23.790	59	52	23.730	52	52	100	N. W.	12	.72	....	Nimbus	4-4	Hidden					.05	Light rain.
2...			24.455	63	54	24.407	54	53.5	96.7	W.	22	2.42	....	Nimbus	4-4	Hidden					.17	Light rain.
3...			25.905	66	58	25.829	58	58	100	N. W.	1	.01	....	Stratus	4-4	Hidden				7.15 a. m.	.10	Cloudy.
4...			27.106	66	63	27.006	63	62	94.2	N. E.	1	.01	....	Nimbus	4-4	Hidden					Blk ...	Light rain.
Station 1...	9	0	23.780	58	52	23.725	52	52	100	N. W.	8	.32	....	Nimbus	4-4	Hidden						Light rain.
2...			24.458	63	54	24.410	54	54	100	W.	22	2.42	....	Nimbus	4-4	Hidden						Light rain.
3...			25.910	68	59	25.829	59	58.5	96.9	N. W.	4	.08	....	Nimbus	4-4	Hidden			8.25 a. m.			Light rain.
4...			27.110	67	63	27.007	63	62	94.2	W.	2	.02	....	Nimbus	4-4	Hidden						Light rain.
Station 1...	10	0	23.772	59	52	23.712	52	52	100	W.	12	.72	....	Nimbus	4-4	Hidden						Light rain.
2...			24.489	66	54	24.435	54	53.5	96.7	W.	19	1.80	....	Nimbus	4-4	Hidden						Light rain.
3...			25.915	67	58	25.837	58	58	100	N. W.	4	.08	....	Nimbus	4-4	Hidden						Light rain.
4...			27.120	67	63	27.017	63.5	62	91.5	W.	4	.08	....	Nimbus	4-4	Hidden						Light rain.
Station 1...	11	0	23.780	59	52	23.720	52	52	100	W.	8	.32	....	Nimbus	4-4	Hidden						Light rain.
2...			24.489	68	53	24.431	53	53	100	N. W.	19	1.80	....	Stratus	4-4	Hidden				10.30 a. m.	.44	Cloudy.
3...			25.915	67.5	59	25.836	59	59	100	N. W.	6	.18	....	Stratus	4-4	Hidden				10.30 a. m.	.44	Cloudy.
4...			27.115	67	65	27.012	65	63	89.0	W.	4	.08	....	Stratus	4-4	Hidden				10.40 a. m.	.34	Cloudy.
Station 1...	12 m.		23.780	60	53	23.717	53	53	100	N. W.	8	.32	....	Stratus	4-4	Hidden				11.45 a. m.	.08	Cloudy.
2...			24.499	68	54	24.441	54	54	100	N. W.	18	1.62	....	Stratus	4-4	Hidden						Cloudy.
3...			25.915	68	61.5	25.834	61.5	60	91.2	N.	5	.12	....	Stratus	4-4	Hidden						Cloudy.
4...			27.120	71	69	27.008	69	65	79.6	N. W.	2	.02	94	Stratus	4-4	Hidden						Cloudy.

Meteorological record for June 28, 1873—Continued.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		
	p. m.																				
Station 1..	1 0	23. 805	60	53	27. 742	53	53	93	N. W.	24	2. 88	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
2...		24. 500	70	55	24. 437	55	55	100	N. W.	18	1. 62	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
3...		25. 924	72	61. 5	25. 834	61. 5	60. 5	94. 3	N.	4	. 08	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
4...		27. 120	72	71	27. 005	71	65. 5	73. 1	N. E.	1	. 01	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Station 1...	2 0	23. 810	60	53	23. 747	53	53	100	N. W.	20	2. 00	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
2...		24. 499	69	56	24. 438	56	55	93. 5	W.	11	. 60	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
3...		25. 930	72. 5	61. 5	25. 839	61. 5	60. 5	94. 3	N. W.	5	. 12	....	Stratus ...	3-4	Cumulus..	1-4	N. W.	......	......	......	Cloudy.
4...		27. 122	72. 5	70	27. 006	70	65	75. 4	N. W.	1	. 01	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
Station 1...	3 0	23. 810	60	53	23. 747	53	53	100	N. W.	18	1. 62	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
2...		24. 480	66	57	24. 426	56	56	100	W.	18	1. 62	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
3...		25. 929	73. 5	67	25. 836	67	63	79. 0	N. W.	6	. 18	....	Stratus ...	2-4	Cumulus..	2-4	N. W.	......	......	......	Cloudy.
4...		27. 130	76	73	27. 006	73	67	71. 6	N. W.	4	. 08	....	Stratus ...	1-4	Cumulus..	2-4	N.	......	......	......	Cloudy.
Station 1...	4 0	23. 800	60	52	23. 737	52	52	100	N. W.	12	. 72	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
2...		24. 481	64	55	24. 431	55	55	100	N. W.	18	1. 62	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
3...		25. 930	74	63	25. 835	63	60	83. 1	N.	6	. 18	....	Stratus ...	2-4	Cumulus..	2-4	N. W.	......	......	......	Cloudy.
4...		27. 130	76	74	27. 006	74	67	67. 7	N. W.	4	. 08	....	Stratus ...	2-4	Cumulus..	1-4	N. W.	......	......	......	Cloudy.
Station 1...	4 57	23. 770	60	51	23. 708	51	51	100	N. W.	22	2. 42	....	Hazy	....	Cumulus..	3-4	N. W.	......	......	......	Clearing.
2...		24. 469	61	57	24. 426	56. 5	53. 5	81. 0	N. W.	22	2. 42	....	Stratus ...	1-4	Cirrus	1-4	N. W.	......	......	......	Fair.
3...		25. 930	74	63	25. 835	63	57	67. 0	N.	7	. 24	....	0	0	Cumulus.. Cirrus	1-4 2-4	N. W. W.	......	......	......	Fair.
4..		27. 139	79	71. 5	27. 007	72	62. 5	56. 0	N. W.	6	. 18	....	Stratus ...	1-8	Cumulus..	2-4	N. W.	......	......	......	Fair.
Station 1...	6 0	23. 784	60	50	23. 722	50	49	93	N.	30	4. 50	....	Cumulus..	1-8	Cirrus	2-4	N.	......	......	......	Fair.
2...		24. 463	63	55	24. 415	55	51. 5	77. 4	N. W.	19	1. 80	....	Stratus ...	1-4	Cirrus	2-4	N. W.	......	......	......	Fair.
3...		25. 932	77	62. 5	25. 831	62. 5	56. 5	66. 7	N. W.	5	. 12	....	0	0	Cirrus	3-4	W.	......	......	......	Fair.
4...		27. 140	78	68	27. 011	68	61	64. 7	W.	4	. 08	....	0	0	Cirrus	3-4	N. W.	......	......	......	Fair.
Station 1...	7 0	23. 795	59	50	23. 735	50	49	93	W.	24	2. 88	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
2...		24. 487	66	53. 5	24. 433	53. 5	52	89. 9	N.	15	1. 12	....	Stratus ...	3-4	Cirrus	1-4	N. W.	......	......	......	Cloudy.
3..		25. 939	76. 5	60. 5	25. 839	60. 5	56. 5	76. 7	N. W.	6	. 18	....	0	0	Cumulus.. Cirrus	1-4 2-4	N. W. W.	......	......	......	Fair.
4...		27. 140	75	66	27. 018	66. 5	61	71. 3	N. W.	4	. 08	....	Stratus ...	1-4	Cirrus	1-4	N. W.	......	......	......	Cloudy.
Station 1..	8 0	23. 835	64	49	23. 764	49	48	93	N.	10	. 50	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
2...		24. 485	59	52	24. 416	52	51. 5	96. 5	N.	16	1. 28	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
3...		25. 950	73	58. 5	25. 858	58. 5	56. 5	87. 7	N. E.	5	. 12	...	Stratus ...	1-4	Cumulus..	1-4	N. W.	......	......	......	Fair.
4...		27. 150	70	61	27. 040	62	59	82. 8	N. W.	4	. 08	....	Stratus ...	1-4	Cirrus	1-4	N. W.	......	......	......	Fair.
Station 1...	9 0	23. 872	71	49	23. 786	49	48	93	0	0	0	....	Stratus ...	4-4	Hidden ...	....	......	......	......	......	Cloudy.
2...		24. 505	65	51	24. 453	51	50	92. 9	N. E.	5	. 12	....	Stratus ...	3-4	0	0	......	......	......	......	Fair.
3...		25. 952	68. 5	57. 5	25. 870	57. 5	55	84. 4	N.	5	. 12	....	Stratus ...	1-4	Cirrus	2-4	N.	......	......	......	Fair.
4...		27. 161	68	59	27. 056	60	57	82. 2	N. W.	4	. 08	....	Stratus ...	1-4	Cirrus	1-4	N. W.	......	......	......	Fair.

Station 1...	10 0	23.878	74	47	23.787	47	46	92	0	0	0	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
2..		24.514	68	50	24.456	50	49	92.7	E.	11	.60	....	Stratus ...	2-4	0	0	....	....	....	....	Fair.
3...		25.940	61.5	56.5	25.875	56.5	54	84.2	S. E.	1	.01	....	0	0	0	0	....	....	....	....	Clear.
4...		27.165	69	56	27.057	57	55	87.4	N. E.	2	.02	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	11 22	23.878	70	47	23.794	47	44	77	0	0	0	....	Stratus ...	1-8	0	0	....	....	....	....	Clear.
2...		24.509	67	48	24.453	48	45	77.7	E.	6	.18	....	0	0	0	0	....	....	....	....	Clear.
3...		25.939	62	54.5	25.872	54.5	52	83.6	E.	1	.01	....	0	0	0	0	....	....	....	....	Clear.
4...		27.145	64	54	27.049	55	52	80.5	N. E.	4	.08	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	12 0 mid-night.	23.870	68	47	23.790	47	44	77	0	0	0	....	0	0	0	0	....	....	....	....	Clear, (aurora.)
2...		24.510	65	48	24.458	48	44.5	74.0	S.	8	.32	420	0	0	0	0	....	....	....	....	Clear.
3...		25.938	61.5	53.5	25.873	3.5	49.5	73.5	E.	1	.01	92	0	0	0	0	....	....	....	....	Clear.
4...		27.145	63	53	27.052	54	51	80.2	N.	4	.08	....	0	0	0	0	....	....	....	....	Clear.

Meteorological record for June 29, 1873.

Station 1...	*a. m.* 1 0	23.883	74	46	23.791	46	42	68	0	0	0	....	Stratus....	1-8	0	0	....	....	....	....	Clear.
2...		24.510	66	50	24.456	50	45	61.8	S.W.	13	.84	....	0	0	0	0	....	....	....	....	Clear.
3...		25.944	66	54	25.868	54	50	73.8	E.	2	.02	....	0	0	0	0	....	....	....	....	Clear.
4...		27.151	61	53	27.063	54	51	80.2	N.	4	.08	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	2 0	23.870	72	46	23.782	46	42	68	0	0	0	....	Stratus....	1-8	0	0	....	....	....	....	Clear.
2...		24.534	74	50	24.463	50	44	58.1	S.	14	.98	....	0	0	0	0	....	....	....	....	Clear.
3...		25.948	64	54	25.877	54	50	73.8	E.	1	.01	....	0	0	0	0	....	....	....	....	Clear.
4...		27.150	59.5	53	27.065	54	51	80.2	N.E.	4	.08	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	3 0	23.860	71	46	23.774	46	42	68	0	0	0	....	Stratus....	1-8	0	0	....	....	....	....	Clear.
2...		24.517	70	49.5	24.454	49.5	44	61.1	S.W.	10	.50	....	Stratus....	1-4	0	0	....	....	....	....	Fair.
3...		25.940	65	54.5	25.866	54.5	49	64.7	E.	2	.02	....	0	0	0	0	....	....	....	....	Clear.
4...		27.130	59	53	27.046	54	51	80.2	N.E.	4	.08	....	0	0	0	0	....	....	....	....	Clear.
Station 1...	4 0	23.835	68	46	23.755	46	42	68	0	0	0	....	Stratus....	1-8	0	0	....	....	....	....	Clear.
2...		24.506	66	50	24.452	50	44.5	61.5	S.W.	11	.60	....	Stratus....	2-4	0	0	....	....	....	....	Fair.
3...		25.945	67.5	54	25.866	54	49	67.4	0	0	0	....	0	0	0	0	....	....	....	....	Clear.
4...		27.130	58	53	27.049	54	51	80.2	N.E.	4	.08	....	Stratus....	2-4	0	0	....	....	....	....	Fair.
Station 1...	5 0	23.860	68	47	23.780	47	42	62	0	0	0	....	Stratus....	1-8	Cumulus ..	1-16	....	....	....	....	Fair.
2...		24.510	65	50.5	24.458	50.5	44.5	58.6	W.	12	.72	....	Stratus....	1-4	0	0	....	....	....	....	Fair.
3...		25.950	67	54.5	25.872	54.5	49	64.7	S.E.	1	.01	....	0	0	Cirro-cum.	2-4	N.W.	....	....	....	Fair.
4...		27.145	57	52.5	27.066	53.5	50.0	76.7	N.E.	4	.08	....	Stratus....	1-4	0	0	....	....	....	....	Fair.
Station 1...	6 0	23.870	68	48	23.790	48	43	63	W.	5	.12	....	Stratus....	1-8	Cumulus ..	1-16	....	....	....	....	Fair.
2...		24.520	65	52	24.468	51	46	65.3	W.	10	.50	....	0	0	0	0	....	....	....	....	Clear.
3...		25.967	67.5	54.5	25.888	54.5	49	64.7	0	0	0	....	0	0	0	0	....	....	....	....	Clear.
4...		27.150	58	54	27.069	55	51	74.3	N.E.	4	.08	....	Stratus....	1-4	0	0	....	....	....	....	Fair.
Station 1...	7 0	23.885	73	51	23.795	51	45	59	W.	7	.24	....	Hazy......	....	0	0	....	....	....	....	Clear.
2...		24.545	69	54.5	24.484	54.5	47.5	55.7	W.	14	.98	....	Stratus....	1-4	0	0	....	....	....	....	Fair.
3...		25.977	67	56	25.899	56	50.5	65.7	0	0	0	....	Hazy......	....	0	0	....	....	....	....	Clear.
4...		27.170	61.5	58	27.081	59	53.5	67.5	N.E.	4	.08	....	Stratus....	1-8	0	0	....	....	....	....	Clear.
Station 1...	7 57	23.910	72	53	23.822	53	47	60	W.	2	.02	....	Hazy......	....	0	0	....	....	....	....	Clear.
2...		24.540	68	56	24.482	56	53.5	84.0	S.	12	.72	....	Stratus....	1-4	Cirrus	1-4	W.	....	....	....	Fair.
3...		25.975	65	57	25.901	59	53	64.7	E.	1	.01	....	Hazy......	....	Cirrus	1-4	W.	....	....	....	Fair.
4...		27.183	65	65	27.085	65.5	58	60.9	N.E.	2	.02	....	0	0	Cirrus	1-4	N.W.	....	....	....	Fair.

Meteorological record for June 29, 1873—Continued.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.			WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.	Relative humidity.	Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.		
Station 1...	a. m. 9 0	23. 920	70	54	23. 836	54	49	68	0	0	0	....	Hazy......	....	Cumulus..	3-4	....	....	....	....	Fair.
2...		24. 560	66	57	24. 506	56	51	68. 7	W.	10	. 50	....	Stratus....	2-4	Cirrus	1-4	W.	....	....	....	Fair.
3...		25. 992	65	61. 5	25. 918	61. 5	55	63. 5	E.	1	. 01	....	Stratus....	1-4	Cumulus..	3-4	N.W.	....	....	....	Cloudy.
4...		27. 193	66	68	27. 099	68	60. 5	62. 4	N.E.	2	. 02	....	Stratus....	4-4	Hidden ..		....	....	....	....	Cloudy.
Station 1...	10 0	23. 920	69	54	23. 838	54	48	61	W.	2	. 02	....	Smoke	....	Cumulus..	4-4	....	....	....	....	Cloudy.
2...		24. 576	72	59. 5	24. 509	59	52	59. 2	W.	14	. 98	....	Stratus....	2-4	Cirrus	1-4	W.	....	....	....	Fair.
3...		26. 000	65	63	25. 926	63	56	61. 9	E.	2	. 02	....	Stratus....	1-4	Cumulus..	3-4	N.W.	....	....	....	Cloudy.
4...		27. 211	69	71. 5	27. 103	71	60	64. 2	0	0	0	....	Stratus....	4-4	Hidden		....	....	....	....	Cloudy.
Station 1...	11 0	23. 935	70	56	23. 851	56	50	62	N.W.	2	. 02	....	Smoke	....	Cumulus..	1-4	N.W.	....	....	....	Fair.
2...		24. 580	72	62	24. 513	61	53	55. 3	N.W.	12	. 72	....	0	0	Cumulus..	2-4	N.W.	....	....	....	Fair.
3...		26. 005	66	66	25. 929	66	56	49. 5	W.	5	. 12	....	Smoky	....	Cumulus..	1-4	W.	....	....	....	Fair.
4...		27. 219	71. 5	72	27. 106	72	59. 5	43. 7	N.E.	2	. 02	...	0	0	Cumulus..	1-4	N.W.	....	....	....	Fair.
Station 1...	12 m.	23. 935	69	57	23. 853	57	52	69	N.W.	2	. 02	....	Hazy......	....	Cumulus..	1-4	N.W.	....	....	....	Fair.
2...		24. 579	68	64	24. 521	63	57	67. 0	W.	10	. 50	....	0	0	Cumulus..	2-4	W.	....	....	....	Fair.
3...		26. 000	67	69	25. 922	69	58	47. 5	W.	4	. 08	....	Smoky	....	Cumulus..	1-4	W.	....	....	....	Fair.
4...		27. 20-	75	76	27. 086	76	61. 5	39. 4	N.W.	4	. 08	83	0	0	Cumulus..	2-4	N.W.	....	....	....	Fair.
Station 1...	p. m. 1 0	23. 933	67	57	23. 855	57	51	69	N. W.	1	. 01	....	Hazy	....	Cumulus..	4-4	....	....	....	....	Cloudy.
2...		24. 580	75	67	24. 509	66	56	49. 5	W.	11	. 60	....	0	0	Cumulus..	2-4	W.	....	....	....	Fair.
3...		26. 005	76	71	25. 906	71	61	53. 2	W.	2	. 02	....	Smoky......	....	Cumulus..	2-4	W.	....	....	....	Fair.
4...		27. 199	77	78. 5	27. 072	78	63	39. 2	N. W.	6	. 18	....	0	0	Cumulus..	2-4	W.	....	....	....	Fair.
Station 1...	2 0	23. 925	66	58	23. 850	58	52	63	N. W.	2	. 02	....	Hazy	....	Cumulus..	3-4	N. W.	....	....	....	Fair.
2...		24. 599	79	65	24. 517	64	54	47. 9	W.	11	. 60	....	Stratus ...	1-4	Cumulus..	2-4	W.	....	....	....	Fair.
3...		26. 005	78	73	25. 901	73	62	50. 4	W.	6	. 18	....	Smoky......	....	Cumulus..	2-4	W.	....	....	....	Fair.
4...		27. 203	80	78. 5	27. 069	79	65	43. 4	N. W.	6	. 18	....	0	0	Cumulus..	2-4	S. W.	....	....	....	Fair.
Station 1...	3 0	23. 925	66	58	23. 850	58	53	69	W.	2	. 02	....	Hazy	....	Cumulus..	3-4	W.	....	....	....	Fair.
2...		24. 589	76	67	24. 513	66	57	54. 3	W.	11	. 60	....	Stratus ...	1-4	Cumulus..	2-4	W.	....	....	....	Fair.
3...		26. 010	79	74	25. 904	74	63	51. 1	W.	5	. 12	....	Smoky......	....	Cumulus..	2-4	W.	....	....	....	Fair.
4...		27. 200	81	78. 5	27. 064	78. 5	64. 5	43. 0	N. W.	4	. 08	....	0	0	Cumulus..	2-4	S. W.	....	....	....	Fair.
Station 1...	4 0	23. 930	65	58	23. 857	58	53	69	N. W.	1	. 01	....	Hazy	....	Cumulus..	3-4	W.	....	....	....	Fair.
2...		24. 582	73	68	24. 513	67	58	55. 0	W.	12	. 72	....	Stratus ...	1-4	Cumulus..	2-4	W.	....	....	....	Fair.
3...		26. 015	76	71	25. 916	71	61	53. 2	W.	4	. 08	....	Smoky......	....	Cumulus..	2-4	W.	....	....	....	Fair.
4...		27. 210	81	77	27. 074	77	65	49. 3	N. W.	6	. 18	....	Hazy	....	Cumulus..	3-4	W.	....	....	....	Cloudy.
Station 1...	4 57	23. 925	65	58	23. 852	58	53	69	N. W.	6	. 18	....	Hazy	....	Cumulus..	4-4	S. W.	....	....	....	Cloudy.
2...		24. 575	72	66. 5	24. 508	65. 5	57	56. 1	W.	11	. 60	...	Stratus ...	1-4	Cumulus..	2-4	W.	....	....	....	Fair.
3...		26. 000	74. 5	71	25. 904	71	62	57. 6	W.	2	. 02	....	Smoky......	....	Cumulus..	2-4	W.	....	....	....	Fair.
4...		27. 199	82	78	27. 060	78	66	49. 9	W.	4	. 08	....	0	0	Cumulus..	2-4	W.	....	....	....	Fair.

2...	6 0	24.575	75	61.5	24.501	61.5	56	68.9	S.W.	11	.60	...	Stratus ...	3-4	Cirrus	1-4	W.	....	....	....	Cloudy
3...		25.995	74	67.5	25.900	67.5	61	66.9	S.E.	2	.02	....	Smoky	....	Cumulus..	3-4	W.	....	....	....	Fair.
4...		27.195	82	74	27.056	74.5	65	57.5	W.	4	.08	....	Stratus ...	2-4	Cirrus	1-4	....	....	....	....	Fair.
Station 1...	7 0	23.922	63	55	23.853	55	54	93	S.	10	.50	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Threatening.
2...		24.580	75	58.5	24.506	58.5	56	85.7	S.W.	17	1.44	....	Stratus ...	3-4	Cirrus	1-4	W.	....	....	....	Cloudy.
3...		25.992	71.5	64.5	25.903	64.5	61	80.8	E.	7	.24	....	Smoky		Cumulus.. Cirrus	1-4 2-4	S. N.	....	....	....	Cloudy.
4...		27.200	79	70	27.068	70	64	70.4	S.W.	4	.08	....	Stratus ...	1-4	Cirrus	2-4	N. W.	....	....	....	Cloudy.
Station 1...	8 0	23.920	63	54	23.851	54	54	100	S.	14	.98	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Threatening.
2...		24.578	72	57	24.511	57	56	93.6	S.	20	2.00	....	Stratus ...	3-4	Cirrus	1-4	W.	....	....	....	Cloudy.
3...		25.993	69.5	63	25.909	63	60.5	85.8	E.	6	.18	....	Stratus ...	1-4	Cumulus..	2-4	S. W.	....	....	....	Cloudy.
4...		27.193	75	68	27.071	68	64	79.3	S.	6	.18	....	Stratus ...	3-4	Hidden ...	....	....	....	....	....	Cloudy.
Station 1...	9 0	23.930	62	54	23.863	54	54	100	S.	20	2.00	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
2...		24.583	71	56.5	24.518	56.5	55	90.4	S.W.	17	1.44	....	Stratus ...	3-4	Cirrus	1-4	W.	....	....	....	Cloudy.
3...		26.003	68	62.5	25.922	62.5	60	85.7	S.W.	7	.24	....	Stratus ...	2-4	Cumulus..	2-4	S. W.	....	....	....	Cloudy.
4...		27.222	75	68	27.100	68	64	79.3	S.W.	4	.08	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Station 1...	10 0	23.918	61	54	23.853	54	54	100	S.W.	24	2.88	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
2...		24.573	68	56.5	24.515	56.5	55.5	90.5	S.W.	16	1.28	...	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		26.000	66	63.5	25.924	63.5	60	80.5	S. E.	6	.18	....	Stratus ...	3-4	Hidden ...	....	....	....	....	....	Cloudy.
4...		27.229	76.5	69.5	27.104	70	63	65.8	S.	3	.04	....	Stratus ...	3-4	Hidden ...	....	....	....	....	....	Cloudy.
Station 1...	11 22	23.940	61	54	23.875	54	51	79	S.W.	18	1.62	....	Cumulus..	2-4	0	0	0	....	....	....	Clearing.
2...		24.585	70	56.5	24.522	56.5	54	87.2	S.W.	11	.60	....	Stratus ...	2-4	0	0	0	....	....	....	Fair.
3...		26.005	65.5	63.5	25.931	63.5	59	75.1	S.	1	.01	....	Stratus ...	3-4	Hidden ...	....	....	....	....	....	Cloudy.
4...		27.230	72.5	65	27.114	65.5	61	75.9	S.W.	2	.02	....	Stratus ...	3-4	Hidden ...	....	....	....	....	....	Cloudy.
Station 1...	12 0 mid-night.	23.940	63	54	23.871	54	51	79	S.W.	12	.72	....	Cumulus..	2-4	0	0	0	....	....	....	Fair.
2...		24.595	71	57	24.530	57	55.5	84.5	W.	14	.98	320	Stratus ...	3-4	Hidden ...	....	....	....	....	....	Fair.
3...		26.008	65.5	64	25.934	64	60	78.0	0	0	0	79	Stratus ...	3-4	Hidden ...	....	....	....	....	....	Cloudy.
4...		27.222	71	64	27.110	65	60.5	75.7	S.W.	2	.02	....	Stratus ...	3-4	0	0	0	....	....	....	Cloudy.

Meteorological record for June 30, 1873.

	a. m.																				
Station 1...	1 0	23.950	70	54	23.866	54	53	93	S. W.	18	1.62	....	Cumulus..	2-4	0	0	....	....	....	....	Fair.
2...		24.600	73	57	24.531	57	55	87.4	S. W.	14	.98	....	Stratus ...	2-4	0	0	....	....	....	....	Fair.
3...		26.019	65.5	63	25.934	63	59	77.6	S. E.	5	.12	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
4...		27.230	71.5	63.5	27.117	64	60	78.0	S. E.	3	.04	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
Station 1...	2 0	23.950	69	54	23.868	54	53	93	S. W.	12	.72	....	Cumulus..	2-4	0	0	....	....	....	....	Fair.
2...		24.585	71	56	24.520	56	54.5	90.3	S. W.	17	1.44	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
3...		26.015	65.5	62.5	25.940	62.5	59.5	82.9	S. E.	7	.24	....	0	0	0	0	....	....	....	....	Clear.
4...		27.215	70	61.5	27.105	62.5	59	89.2	S. E.	3	.04	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
Station 1...	3 0	23.945	68	53	23.865	53	52	93	W.	20	2.00	....	Cumulus..	3-4	0	0	....	....	....	....	Fair.
2...		24.569	67	55	24.513	55	54	87.2	S. W.	17	1.44	....	Stratus ...	2-4	0	0	....	....	....	....	Fair.
3...		26.010	65	62	25.936	62	59.5	85.6	S. E.	10	.50	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
4...		27.213	69	61	27.105	61.5	59	85.5	S. W.	4	.08	....	Stratus ...	1-4	0	0	....	....	....	....	Fair.
Station 1...	4 0	23.945	68	53	23.865	53	53	100	W.	18	1.62	....	Cumulus..	2-4	0	0	....	....	....	....	Fair.
2...		24.560	63	55	24.512	55	55	100	S. W.	18	.84	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		26.000	64.5	61	25.928	61	59	82.2	S. E.	8	.32	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
4...		27.210	68.5	60.5	27.103	61.5	59	85.5	S. E.	2	.02	....	Stratus ...	2-4	0	0	....	....	....	....	Fair.

Meteorological record for June 30, 1873—Continued.

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'enc'd.	Ended.		
Station 1...	a. m. 5 0	23. 955	71	53	23. 869	53	53	100	W.	12	. 72	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
2...		24. 575	63	55. 5	24. 527	55. 5	55	96. 7	S. W.	19	1. 80	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		26. 015	64	60	25. 944	60	59	94. 0	S. W.	6	. 18	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
4...		27. 209	67	61	27. 106	62	60	88. 4	S. E.	3	. 04	....	Stratus ...	3-4	Hidden ...	....	....	....	....	....	Cloudy.
Station 1...	6 0	23. 960	73	53	23. 870	53	53	100	W.	8	. 32	....	Cumulus..	2-4	0	0	0	....	....	....	Fair.
2...		24. 570	63	57	24. 522	56. 5	55. 5	93. 5	W.	19	1. 80	....	Stratus ...	2-4	Cirrus	1-4	N.	....	....	....	Fair.
3...		26. 020	64. 5	61	25. 948	61	59. 5	91. 1	S. E.	5	. 12	....	0	0	Cirrus	2-4	W.	....	....	....	Fair.
4...		27. 222	68. 5	65	27. 116	65. 5	62	81. 1	S. E.	2	. 02	....	Stratus ...	2-4	0	0	....	....	....	....	Fair.
Station 1...	7 0	23. 965	74	53	23. 873	53	53	100	W.	10	. 50	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
2...		24. 597	67	56	24. 541	55. 5	55	96. 7	S. W.	13	. 84	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		26. 030	68	61	25. 949	61	60	94. 1	S. E.	5	. 12	....	Stratus ...	2-4	Cumulus..	1-4	S. E.	....	....	....	Cloudy.
4...		27. 245	70	69	27. 135	69	64	74. 7	W.	2	. 02	....	Stratus ...	3-4	Hidden ...	....	....	....	....	....	Cloudy.
Station 1...	7 57	23. 954	72	53	23. 866	53	53	100	S. W.	30	4. 50	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
2...		24. 576	66	55. 5	24. 522	55. 5	55	96. 7	S. W.	20	2. 00	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		26. 040	66. 5	62	25. 963	62	60	88. 4	S. E.	6	. 18	....	Stratus ...	2-4	Cirro-cum.	1-4	S. W.	....	....	....	Cloudy.
4...		27. 249	70	69	27. 139	69	64	74. 7	S. W.	4	. 08	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Station 1...	9 0	23. 949	69	53	23. 867	55	55	100	S. W.	14	. 98	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
2...		24. 580	61	56	24. 537	56	56	100	S. W.	24	2. 88	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		26. 035	65	63	25. 961	63	61	88. 6	S.	7	. 24	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
4...		27. 250	70	70	27. 140	70	65	75. 1	W.	2	. 02	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Station 1...	10 0	23. 955	68	54	23. 875	54	54	100	W.	24	2. 88	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
2...		24. 580	62	58	24. 535	57	56	93. 6	S. W.	25	3. 12	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		26. 02[illegible]	64. 5	64. 5	25. 956	64. 5	61. 5	83. 4	S. W.	11	. 60	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
4...		27. 250	70	71	27. 139	71	64	66. 3	N. E.	4	. 08	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Station 1...	11 0	23. 955	69	51	23. 873	51	51	100	S. W.	30	4. 50	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
2...		24. 586	63	55	24. 538	55	53	86. 9	S. W.	31	4. 80	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		26. 038	64. 5	62	25. 966	62	59	82. 8	S. W.	7	. 24	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
4...		27. 257	71	69	27. 144	69	63	70. 0	S. W.	4	. 08	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Station 1...	12 m.	23. 955	70	53	23. 871	53	53	100	S. W.	22	2. 42	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
2...		24. 580	62	56	24. 535	55	55	100	S. W.	34	5. 78	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
3...		26. 035	64. 5	62. 5	25. 953	62. 5	59. 5	82. 9	S. W.	10	. 50	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
4...		27. 262	72	69	27. 146	69	63	70. 0	S. W.	4	. 08	88	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
Station 1...	p. m. 1 0	23. 960	70	53	23. 876	53	53	100	S. W.	30	4. 50	....	Nimbus...	4-4	Hidden ...	....	....	1.00 p. m.	....	....	Light rain.
2...		24. 590	63	55	24. 542	55	55	100	S. W.	29	4. 20	....	Nimbus...	4-4	Hidden ...	....	....	12.30 p. m.	....	....	Light rain.
3...		26. 040	64	63	25. 969	63	59	77. 6	S. W.	11	. 60	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.
4...		27. 261	63	70	27. 167	60	63. 5	68. 0	S. W.	6	. 16	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	Cloudy.

Station 1	2 0	23.958	68	54	23.878	54	54	100	S. W.	36	6.48	....	Nimbus	4-4	Hidden						Light rain.
2		24.590	62	56	24.545	56	56	100	S. W.	23	2.64	....	Nimbus	4-4	Hidden						Light rain.
3		26.040	64	64	25.969	64	61	83.3	S. W.	12	.72	....	Stratus	3-4	Cumulus	1-4	S. W.				Cloudy.
4		27.270	73	71	27.152	71.5	64	64.3	N. W.	8	.32	....	Stratus	3-4	Hidden						Cloudy.
Station 1	3 0	23.930	65	54	23.857	54	54	100	S. W.	30	4.50	....	Nimbus	4-4	Hidden						Light rain.
2		24.600	68	57	24.542	57	57	100	S. W.	31	4.80	....	Nimbus	4-4	Hidden						Light rain.
3		26.028	65.5	66	25.953	66	63	83.8	S. W.	10	.50	....	Nimbus	4-4	Hidden			2.55 p. m.			Light rain.
4		27.259	75	71	27.136	71	66.5	77.8	S.	6	.18	....	Stratus	4-4	Hidden						Cloudy.
Station 1	4 0	23.955	71	54	23.869	54	54	100	S. W.	24	2.88	....	Nimbus	4-4	Hidden						Light rain.
2		24.590	64	57	24.540	57	56.5	96.8	S. W.	23	2.64	....	Stratus	4-4	Hidden				3.20 p. m.		Cloudy.
3		26.035	66	64	25.959	64	62	88.8	S. W.	11	.60	....	Stratus	4-4	Hidden				3.15 p. m.		Cloudy.
4		27.265	74.5	69.5	27.143	69.5	66	82.2	S. E.	6	.18	....	Stratus	3-4	Hidden						Cloudy.
Station 1	4 57	23.930	71	55	23.844	55	55	100	S. W.	28	3.92	....	Nimbus	4-4	Hidden					.42	Light rain.
2		24.583	68	56.5	24.525	56.5	56.5	100	S. W.	24	2.88	....	Stratus	4-4	Hidden					.04	Cloudy.
3		26.030	65.5	64	25.955	64	62	88.8	S. W.	12	.72	....	Stratus	3-4	Hidden					.—	Cloudy.
4		27.259	74	70.5	27.138	70.5	66	77.6	S. E.	6	.18	....	Stratus	2-4	Cirrus	1-4	0				Cloudy.
Station 1	6 0	23.939	74	54	23.847	54	54	100	S. W.	30	4.50	....	Stratus	4-4	Hidden				5.30 p. m.	.02	Cloudy.
2		24.582	70	57	24.519	56.5	56.5	100	S. W.	34	5.78	....	Stratus	4-4	Hidden						Cloudy.
3		26.028	68	63.5	25.947	63.5	62	91.5	S. W.	16	1.28	....	Stratus	3-4	Cirrus	1-4	S.	5.50 p. m.	5.55 p. m.		Cloudy.
4		27.262	75	68.5	27.139	68.5	65.5	84.4	S.	6	.18	....	Stratus	3-4	Cirrus	1-4	0				Cloudy.
Station 1	7 0	23.951	73	55	23.861	55	55	100	S. W.	50	12.50	....	Stratus	4-4	Hidden						Cloudy.
2		24.587	68	57	24.529	57	57	100	S. W.	29	4.20	....	Stratus	4-4	Hidden						Cloudy.
3		26.041	70.5	63.5	25.955	63.5	61.5	88.7	S. W.	13	.84	....	Stratus	3-4	Cirrus	1-4	S.				Cloudy.
4		27.260	72	68.5	27.144	68.5	65	81.9	S.	8	.32	....	Stratus	2-4	Cirrus	2-4	W.				Cloudy.
Station 1	8 0	23.950	71	54	23.864	54	54	100	S. W.	48	11.52	....	Stratus	4-4	Hidden						Cloudy.
2		24.590	66	56	24.536	56	55.5	96.7	S. W.	32	5.12	....	Stratus	4-4	Hidden						Cloudy.
3		26.060	69	63	25.977	63	61	88.6	S. W.	17	1.44	....	Stratus	4-4	Hidden						Cloudy.
4		27.270	71	67.5	27.157	68	64	79.3	N.	8	.32	....	Stratus	2-4	Cirrus	2-4	W.				Cloudy.
Station 1	9 0	23.952	69	53	23.870	53	53	100	S. W.	40	8.00	....	Stratus	4-4	Hidden						Cloudy.
2		24.596	66	55	24.542	54.5	54.5	100	S. W.	32	5.12	....	Stratus	4-4	Hidden						Cloudy.
3		26.058	66.5	61	25.971	61	59	88.3	S. W.	13	.84	....	Stratus	4-4	Hidden						Cloudy.
4		27.295	71	67	27.182	67.5	62.5	74.0	S. E.	8	.32	....	Stratus	4-4	Hidden						Cloudy.
Station 1	10 0	23.955	70	52	23.871	52	52	100	S. W.	46	10.58	...	Nimbus	4-4	Hidden			9.20 p. m.			Light rain.
2		24.605	66	54.5	24.551	54	54	100	S. W.	40	8.00	....	Stratus	4-4	Hidden						Cloudy.
3		26.059	64	61	25.988	61	59	88.3	S. W.	11	.60	....	Stratus	3-4	Hidden						Cloudy.
4		27.305	72.5	66	27.188	67	61.5	71.5	S.	6	.18	....	Stratus	3-4	Hidden						Cloudy.
Station 1	11 22	23.965	72	52	23.877	52	52	100	S. W.	36	6.48	....	Nimbus	4-4	Hidden					.18	Light rain.
2		24.590	62	53.5	24.541	53.5	53.5	100	S. W.	40	8.00	....	Stratus	4-4	Hidden						Cloudy.
3		26.050	64	60.5	25.979	60.5	58.5	88.1	S.	14	.98	....	Stratus	4-4	Hidden						Cloudy.
4		27.293	71	65	27.180	66	61	73.5	S. W.	10	.50	....	Stratus	3-4	Hidden						Cloudy.
Station 1	12 0 mid-night.	23.952	71	52	23.866	52	52	100	S. W.	50	12.50	....	Nimbus	4-4	Hidden						Light rain.
2		24.590	62	53	24.545	53	53	100	S. W.	40	8.00	280	Stratus	4-4	Hidden						Cloudy.
3		26.050	63	60	25.981	60	58	88.0	S.	12	.72	223	Stratus	3-4	Hidden						Cloudy.
4		27.289	70.5	65	27.177	66	61	73.5	S.	8	.32	....	Stratus	3-4	Hidden						Cloudy.

M.—*Meteorological record for the five days ending May 5, 1873.*

(Hourly observations.)

NOTE.—Station: Portland, Maine. Elevation of barometer above sea-level: 52 feet.

Day and date of observation.	Time of observation.	Barometer.	THERM.		HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer—daily mean.	Remarks.
			Attached.	Exposed.	Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
																				°	
Thursday, May 1	7 0 a. m.	30.16	58	51	51	44	52	W.	4	.08	....	0	0	0	0	....	....	....	....	....	Clear.
	8 2 a. m.	30.17	62	60	60	48	34	0	0	0	....	0	0	0	0	....	....	....	....	....	Clear.
	12 27 p. m.	30.08	63	62	62	47	22	S. W.	12	.72	....	0	0	Hazy	....	....	....	....	....	....	Fair.
	2 0 p. m.	30.05	64	62	62	49	31	S.	12	.72	162	0	0	Cirrus	1-4	W.	....	....	....	53.2	Fair.
	5 2 p. m.	30.01	61	55	55	45	38	S.	10	.50	....	0	0	Cirro-cum.	1-4	W.	....	....	....	....	Fair.
	9 0 p. m.	30.03	60	50	50	45	64	0	0	0	....	Hazy	....	Hazy	....	....	....	....	....	....	Fair.
	11 27 p. m.	30.00	60	51	51	44	52	0	0	0	....	Hazy	....	Hazy	....	....	....	....	....	....	Fair.
Friday, May 2	7 0 a. m.	30.07	57	44	44	37	45	N. E.	8	.32	....	Stratus ...	1-4	Cirrus ...	1-4	S. W.	....	....	....	....	Fair.
	8 2 a. m.	30.07	58	45	45	36	31	N. E.	8	.32	....	Stratus ...	2-4	Cirrus	2-4	W.	....	....	....	....	Cloudy.
	12 27 p. m.	30.04	67	45	45	37	38	E.	12	.72	....	Stratus ...	2-4	Cirrus	2-4	S. W.	....	....	....	....	Threatening.
	2 0 p. m.	30.03	65	43	43	40	75	N. E.	12	.72	162	Stratus ...	2-4	Cirrus	2-4	....	....	....	....	40.7	Threatening.
	5 2 p. m.	29.93	63	40	40	36	64	N. E.	12	.72	....	Stratus ...	4-4	Hidden ...	....	....	4.30 p. m.	....	.02	....	Sleet.
	9 0 p. m.	29.89	61	38	38	36	81	N. E.	18	1.62	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	....	Light rain.
	11 27 p. m.	29.83	61	36	36	35	90	N. E.	20	2.00	....	Stratus ...	4-4	Hidden ...	....	....	....	....	.16	....	Light rain.
Saturday, May 3	7 0 a. m.	29.71	58	35	35	34	90	N.	20	2.00	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	....	Snow.
	8 2 a. m.	29.71	59	34	34	33	89	N.	20	2.00	....	Stratus ...	4-4	Hidden ...	....	....	....	....	.28	....	Heavy snow.
	12 27 p. m.	29.70	61	36	36	35	90	N. E.	20	2.00	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	....	Light rain.
	2 0 p. m.	29.72	61	36	36	35	90	N. E.	20	2.00	399	Stratus ...	4-4	Hidden ...	....	....	....	....	....	36.2	Light rain.
	5 2 p. m.	29.74	61	36	36	35	90	N. E.	20	2.00	....	Stratus ...	4-4	Hidden ...	....	....	....	....	.14	....	Light rain.
	9 0 p. m.	29.74	61	37	37	35	80	N. E.	8	.32	....	Stratus ...	4-4	Hidden ...	....	....	....	....	....	....	Cloudy.
	11 27 p. m.	29.75	56	38	38	34	66	N. E.	8	.32	....	Stratus ...	4-4	Hidden ...	....	....	....	5.20 p. m.	.02	....	Cloudy.
Sunday, May 4	7 0 a. m.	29.85	61	43	43	35	35	N. E.	8	.32	....	0	0	0	0	0	....	....	....	....	Clear.
	8 2 a. m.	29.86	62	45	45	35	24	N. E.	8	.32	....	0	0	0	0	0	....	....	....	....	Clear.
	12 27 p. m.	29.87	60	58	58	44	21	N. W.	4	.08	....	0	0	0	0	0	....	....	....	....	Clear.
	2 0 p. m.	29.87	61	58	58	44	21	N. E.	2	.02	283	0	0	0	0	0	....	....	....	46.7	Clear.
	5 2 p. m.	29.88	62	49	49	40	37	S. W.	16	1.28	....	0	0	0	0	0	....	....	....	....	Clear.
	9 0 p. m.	29.92	58	43	43	39	66	S. W.	8	.32	....	0	0	Hazy	....	....	....	....	....	....	Fair.
	11 27 p. m.	29.93	57	43	43	39	66	S. W.	8	.32	....	0	0	0	0	0	....	....	....	....	Clear.
Monday, May 5	7 0 a. m.	29.87	57	51	51	43	46	S. W.	8	.32	....	Stratus ...	2-4	Cirrus	2-4	S. W.	....	....	....	....	Threatening.
	8 2 a. m.	29.89	57	52	52	44	47	S. W.	8	.32	....	Stratus ...	2-4	Cirrus	2-4	S. W.	....	....	....	....	Cloudy.
	12 27 p. m.	29.93	60	58	58	48	42	N. W.	10	.50	....	Stratus ...	1-4	Cumulus..	2-4	W.	....	....	....	....	Cloudy.
	2 0 p. m.	29.98	61	60	60	48	34	N. W.	8	.32	203	0	0	Cumulus..	2-4	W.	....	....	....	51.7	Fair.
	5 2 p. m.	30.01	65	59	59	47	33	N.	8	.32	....	0	0	Cumulus..	1-4	0	....	....	....	....	Fair.
	9 0 p. m.	30.14	61	48	48	40	42	N. W.	4	.08	....	0	0	0	0	0	....	....	....	....	Clear.
	11 27 p. m.	30.19	60	45	45	37.5	54	N. W.	2	.02	....	0	0	0	0	0	....	....	....	....	Clear.

Meteorological record for the five days ending May 10, 1873.

Tuesday, May 6....	7	0 a. m.	30. 31	58	47	47	37	27	N.	4	. 08	....	0	0	0	0	0	....	....	....	....	Clear.
	8	2 a. m.	30. 33	62	49	49	38	24	N.	6	. 18	....	0	0	0	0	0	....	....	....	....	Clear.
	12	27 p. m.	30. 29	58	58	58	42	12	N. W.	10	. 50	....	0	0	0	0	0	....	....	....	....	Clear.
	2	0 p. m.	30. 28	61	57	57	44	23	S.	6	. 18	129	0	0	0	0	0	....	....	....	50. 0	Clear.
	5	2 p. m.	30. 25	60	51	51	40	21	S.	8	. 32	....	0	0	0	0	0	....	....	....	....	Clear.
	9	0 p. m.	30. 30	59	48	48	40	42	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	11	27 p. m.	30. 32	58	46	46	39	47	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
Wednesday, May 7.	7	0 a. m.	30. 42	59	44	44	49	59	N. E.	8	. 32	....	0	0	0	0	0	....	....	....	....	Clear.
	8	2 a. m.	35. 44	62	47	47	41	55	N. E.	8	. 32	....	0	0	0	0	0	....	....	....	....	Clear.
	12	27 p. m.	30. 41	59	55	55	44	33	S. E.	4	. 08	....	0	0	0	0	0	....	....	....	....	Clear.
	2	0 p. m.	30. 38	59	53	53	43	36	S.	10	. 50	135	0	0	0	0	0	....	....	....	45. 2	Clear.
	5	2 p. m.	30. 36	58	48	48	40	42	S. W.	13	. 84	....	0	0	Cumulus..	1-4	N.	....	....	....	....	Fair.
	9	0 p. m.	30. 41	62	42	42	38	66	S. W.	4	. 08	....	0	0	0	0	0	....	....	....	....	Clear.
	11	27 p. m.	30. 44	63	41	41	38	73	S. W.	2	. 02	....	0	0	0	0	0	....	....	....	....	Clear.
Thursday, May 8 ..	7	0 a. m.	30. 45	57	49	49	45	64	0	0	0	....	0	0	Cirrus	1-4	W.	....	....	....	....	Fair.
	8	2 a. m.	30. 47	60	50	50	44	58	S. W.	2	. 02	....	0	0	Cirrus	1-4	W.	....	....	....	....	Fair.
	12	27 p. m.	30. 40	57	54	54	42	26	S.	16	1. 28	....	0	0	Cirrus	1-4	S. W	....	....	....	....	Fair.
	2	0 p. m.	30. 40	59	52	52	41	29	S.	16	1. 28	136	0	0	Cirrus	1-4	S. W.	....	....	....	45. 7	Fair.
	5	2 p. m.	30. 39	66	49	49	40	37	S.	14	. 98	....	0	0	Cirrus	1-4	N. W.	....	....	....	....	Fair.
	9	0 p. m.	30. 39	64	41	41	38	73	S. W.	4	. 08	....	0	0	Hazy	....	......	....	....	....	....	Fair.
	11	27 p. m.	30. 37	63	40	40	37	73	0	0	0	....	0	0	Hazy	....	......	....	....	....	....	Fair.
Friday, May 9......	7	0 a. m.	30. 33	57	42	42	40	83	0	0	0	....	Stratus ...	2-4	Cirrus	2-4	S. W.	....	....	....	....	Threatening.
	8	5 a. m.	30. 33	58	45	45	42	76	N. E.	2	. 02	....	Stratus ...	2-4	Cirrus	2-4	S. W.	....	....	....	....	Threatening.
	12	27 p. m.	30. 34	67	49	49	43	57	E.	2	. 02	....	Stratus ...	2-4	Cirrus	2-4	......	....	....	....	....	Cloudy.
	2	0 p. m.	30. 34	66	51	51	44	52	S. E.	4	. 08	139	Stratus ...	1-4	Cirrus	2-4	S. W.	....	....	....	45. 2	Cloudy.
	5	2 p. m.	30. 30	66	46	46	41	61	E.	4	. 08	....	Stratus ...	2-4	Cirrus	2-4	S. W.	....	....	....	....	Threatening.
	9	0 p. m.	30. 26	62	44	44	40	67	N. E.	4	. 08	....	Stratus ..	3-4	Hidden ...	....	......	....	....	....	....	Cloudy.
	11	27 p. m.	30. 25	63	44	44	40	67	0	0	0	....	Stratus ...	3-4	Hidden ...	....	......	....	....	....	....	Cloudy.
Saturday, May 10..	7	0 a. m.	30. 16	56	43	43	42. 5	95	N. E.	8	. 32	....	Nimbus ...	4-4	Hidden ...	....	......	....	....	....	....	Heavy rain.
	8	2 a. m.	30. 16	56	43	43	43	100	N. E.	8	. 32	....	Nimbus ...	4-4	Hidden ...	....	......	1. 30 a. m.	....	. 38	....	Light rain.
	12	27 p. m.	30. 13	66	46	46	45	92	0	0	0	....	Fog	....	Hidden ...	....	......	....	....	....	....	Light rain.
	2	0 p. m.	30. 11	67	45	45	44	92	0	0	0	110	Fog	....	Hidden ...	....	......	....	....	....	45. 0	Foggy.
	5	2 p. m.	30. 09	63	45	45	44. 5	95	0	0	0	....	Fog	....	Hidden ...	....	......	....	....	. 61	....	Foggy.
	9	0 p. m.	30. 10	60	46	46	45	92	0	0	0	....	Fog	....	Hidden ...	....	......	....	....	....	....	Foggy.
	11	27 p. m.	30. 10	63	46	46	45	92	0	0	0	....	Fog	....	Hidden ...	....	......	....	....	. 01	....	Foggy.

Meteorological record for the five days ending May 15, 1873.

Sunday, May 11....	7	0 a. m.	30. 01	62	47	47	46	92	N. E.	4	. 08	....	Fog	....	Hidden....	....	......	....	....	....	....	Foggy.
	8	2 a. m.	30. 01	61	47	47	46	92	N. E.	4	. 08	....	Fog	....	Hidden....	....	......	....	....	. 05	....	Light rain.
	12	27 p. m.	29. 98	60	45	45	44	92	N. E.	4	. 08	....	Fog	....	Hidden....	....	......	....	....	....	....	Foggy.
	2	0 p. m.	29. 92	60	44	44	41	100	N. E.	6	. 18	21	Fog	....	Hidden....	....	......	....	....	....	45. 7	Light rain.
	5	2 p. m.	29. 87	65	44	44	44	100	N. E.	10	. 50	...	Nimbus ...	4-4	Hidden....	....	......	....	....	. 11	....	Light rain.
	9	0 p. m.	29. 79	66	46	46	46	100	N. E.	4	. 08	....	Nimbus ...	4-4	Hidden....	....	......	....	....	....	....	Light rain.
	11	27 p. m.	29. 71	65	47	47	47	100	N.	4	. 08	...	Nimbus ...	4-4	Hidden....	....	......	....	....	. 43	....	Light rain.

Meteorological record for the five days ending May 15, 1873—Continued.

Day and date of observation.	Time of observation.	Barometer.	THERM.		HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer—daily mean.	Remarks.
			Attached.	Exposed.	Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Monday, May 12...	7 0 a. m.	29. 62	62	50	50	49	96	S. W.	2	.02	....	Stratus....	4-4	Hidden....	....	......	....	....	....	°	Cloudy.
	8 2 a. m.	29. 63	63	51	51	50	96	S. W.	2	.02	....	Nimbus....	4-4	Hidden....	....	......	....	....	.10	....	Light rain.
	12 27 p. m.	29. 60	63	59	59	54	70	W.	2	.02	....	Stratus....	2-4	Cumulus..	2-4	......	....	....	....	....	Cloudy.
	2 0 p. m.	29. 61	63	62	62	55	61	N. W.	4	.08	110	Stratus....	2-4	Cumulus..	2-4	......	....	....	....	54. 5	Cloudy.
	5 2 p. m.	29. 63	63	61	61	55	65	N.	4	.08	....	0	0	Cumulus..	2-4	S. W.	....	9.00 a. m.	.04	....	Fair.
	9 0 p. m.	29. 69	61	53	53	48	66	0	0	0	....	0	0	0	0	......	....	....	....	....	Clear.
	11 27 p. m.	29. 71	60	43	43	39	67	0	0	0	....	0	0	0	0	......	....	....	....	....	Clear.
Tuesday, May 13...	7 0 a. m.	29. 67	64	51	51	47	72	S. W.	2	.02	....	0	0	0	0	......	....	....	....	....	Clear.
	8 2 a. m.	29. 64	62	55	55	48	56	S.	6	.18	....	0	0	0	0	......	....	....	....	....	Clear.
	12 27 p. m.	29. 48	62	52	52	47	66	S.	8	.32	....	Stratus....	4-4	Hidden....	....	......	....	....	....	....	Cloudy.
	2 0 p. m.	29. 44	61	56	56	50	62	S.	12	.72	72	0	0	0	0	......	....	....	....	50. 7	Clear.
	5 2 p. m.	29. 38	60	58	58	54	75	S. W.	4	.08	....	Stratus....	1-4	Cumulus..	1-4	S. W.	....	....	....	....	Fair.
	9 0 p. m.	29. 55	56	48	48	40	42	N. W.	12	.72	....	0	0	0	0	......	....	....	....	....	Clear.
	11 27 p. m.	29. 61	58	44	44	38	66	N. W.	2	.02	....	0	0	0	0	......	....	....	....	....	Clear.
Wednesday, May 14	7 0 a. m.	29. 68	59	47	47	39	41	S. W.	8	.32	....	0	0	0	0	......	....	....	....	....	Clear.
	8 2 a. m.	29. 68	62	48	48	39	35	W.	12	.72	....	0	0	0	0	......	....	....	....	....	Clear.
	12 27 p. m.	29. 62	64	53	53	51	86	S. W.	16	1. 28	....	Stratus....	1-4	Cumulus..	1-4	W.	....	....	....	....	Fair.
	2 0 p. m.	29. 60	60	53	53	42	30	W.	12	.72	239	0	0	Cumulus..	3-4	W.	....	....	....	47. 0	Cloudy.
	5 2 p. m.	29. 60	63	53	53	42	30	N. W.	12	.72	....	0	0	Cumulus..	1-4	N.	....	....	....	....	Fair.
	9 0 p. m	29. 63	60	44	41	38	52	S. W.	4	.08	....	Stratus....	1-4	Cirrus.....	2-4	W.	....	....	....	....	Cloudy.
	11 27 p. m.	29. 62	58	42	42	36	50	W.	4	.08	....	Stratus....	2-4	Cirro-cum.	2-4	W.	....	....	....	....	Cloudy.
Thursday, May 15..	7 0 a. m.	29. 65	59	45	45	38	56	N. W.	16	1. 28	....	0	0	Cirrus.....	1-4	W.	....	....	....	....	Fair.
	8 2 a. m.	29. 66	62	47	47	38	46	N. W.	12	.72	....	0	0	Cirrus.....	1-4	W.	....	....	....	....	Fair.
	12 27 p. m.	29. 67	61	58	58	46	32	N. W.	12	.72	....	0	0	Cirrus.....	1-4	W.	....	....	....	....	Fair.
	2 0 p. m.	29. 70	65	61	61	47	25	N. W.	8	.32	238	0	0	Cumulus..	1-4	N. W.	....	....	....	50. 5	Fair.
	5 2 p. m.	29. 74	65	58	58	46	31	N. W.	12	.72	....	0	0	Cumulus..	1-4	N.	....	....	....	....	Fair.
	9 0 p. m.	29. 80	62	48	48	42	56	N. W.	8	.32	....	0	0	0	0	......	....	....	....	....	Clear.
	11 27 p. m.	29. 81	61	45	45	41	68	N. W.	2	.02	....	0	0	0	0	......	....	....	....	....	Clear.

Meteorological record for the five days ending May 20, 1873.

Friday, May 16.....	7 0 a. m.	29. 81	60	49	49	43	57	W.	4	.08	....	Stratus ...	2-4	Cirro-cum.	2-4	N.	....	....	....	....	Cloudy.
	8 2 a. m.	29. 82	60	51	51	45	59	W.	4	.08	....	Stratus ...	2-4	Cirro-cum	2-4	N.	....	....	....	....	Cloudy.
	12 27 p. m.	29. 80	66	58	58	48	42	S.	10	.50	....	Stratus ...	1-4	Cumulus..	1-4	W.	....	....	....	....	Fair.
	2 0 p. m.	29. 81	69	59	59	49	43	S. W.	8	.32	129	0	0	Cumulus..	2-4	N.	....	....	....	53. 0	Fair.

	5 2 p. m.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	W.	4	.08	....	0	0	Cumulus	[illegible]	....	....	....	....	....	Cloudy.
	9 0 p. m.	29.82	65	52	52	45	53	0	0	0	....	Stratus	1·4	Cumulus	2·4	....	....	....	....	....	Cloudy.
	11 27 p. m.	29.82	65	52	52	45	56	W.	2	.02	....	Stratus	2·4	Cirro-cum	2·4		....	....	....	....	Cloudy.
Saturday, May 17 ..	7 0 a. m.	29.80	61	54	54	46	49	N. W.	4	.08	....	Stratus	1·4	Cirrus	1·4	N. W.	....	....	....	....	Fair.
	8 2 a. m.	29.81	63	55	55	46	44	N. W.	8	.32	....	0	0	Cumulus	1·4	N. W.	....	....	....	....	Fair.
	12 27 p. m.	29.81	62	60	60	48	34	W.	12	.72	..	Stratus	1·4	Cumulus	2·4	N. E.	....	....	....	....	Cloudy.
	2 0 p. m.	29.80	64	60	60	47	29	N. W.	8	.32	123	0	0	Cumulus	3·4	N. E.	....	....	....	53.5	Cloudy.
	5 2 p. m.	29.82	63	58	58	48	42	N. W.	10	.50	....	Stratus	1·4	Cumulus	1·4	N. E.	....	....	....	....	Fair.
	9 0 p. m.	29.86	61	50	50	46	71	W.	2	.02	....	Stratus	2·4	Cumulus	2·4		....	....	....	....	Cloudy.
	11 27 p. m.	29.89	61	49	49	45	71	N. W.	4	.08	....	Stratus	2·4	Cumulus	1·4	....	....	....	....	....	Cloudy.
Sunday, May 18	7 0 a. m	29.89	58	46	46	43	77	0	0	0	....	Nimbus	4·4	Hidden	....	....	....	....	....	....	Light rain.
	8 2 a. m.	29.89	58	46	46	43	77	N. E.	4	.08	....	Stratus	4·4	Hidden		....	7.00 a. m.	....	.04	....	Cloudy.
	12 27 p. m.	29.92	57	49	49	44	64	N. E.	4	.08	....	0	0	Cumulus	1·4	W.	....	....	....	....	Clearing.
	2 0 p. m.	29.91	61	55	55	48	56	0	0	0	124	0	0	Cumulus	2·4	N. E.	....	....	....	50.2	Fair.
	5 2 p. m.	29.91	62	55	55	45	38	N.	8	.32	....	0	0	Cumulus	2·4	N. E.	....	12.00 m.	.09	....	Fair.
	9 0 p. m.	29.96	61	50	50	42	45	N. W.	4	.08	....	0	0	0	0	....	....	....	....	....	Clear.
	11 27 p. m.	29.84	60	45	49	39	53	W.	8	.32	....	0	0	0	0	....	....	....	....	....	Clear.
Monday, May 19....	7 0 a. m.	29.90	58	49	49	42	50	N. W.	6	.18	....	Stratus	2·4	Cumulus	2·4	....	....	....	....	....	Cloudy.
	8 2 a. m.	29.91	58	52	52	44	47	N. W.	4	.08	....	Stratus	4·4	Hidden	....	....	....	....	....	....	Cloudy.
	12 27 p. m.	29.95	60	56	56	45	35	N.	8	.32	....	Stratus	3·4	Cumulus	1·4	N. W.	....	....	....	....	Cloudy.
	2 0 p. m.	29.97	61	58	58	48	42	N.	4	.08	112	Stratus	1·4	Cumulus	2·4	N. W.	....	....	....	51.2	Cloudy.
	5 2 p. m.	30.01	60	57	57	45	30	N. E.	12	.72	....	0	0	Cumulus	1·4	N. W.	....	....	....	....	Fair.
	9 0 p. m.	30.13	60	49	49	42	50	N.	4	.08	....	0	0	0	0	....	....	....	....	....	Clear.
	11 27 p. m.	30.16	60	45	45	40	60	0	0	0	....	0	0	0	0	....	....	....	....	....	Clear.
Tuesday, May 20...	7 0 a. m.	30.24	61	52	52	42	35	N. W.	4	.08	....	0	0	0	0	....	....	....	....	....	Clear.
	8 2 a. m.	30.26	63	55	55	43	28	N.	4	.08	....	0	0	0	0	....	....	....	....	....	Clear.
	12 27 p. m.	30.27	62	62	62	49	32	S. E.	4	.08	....	0	0	0	0	....	....	....	....	....	Clear.
	2 0 p. m.	30.28	62	57	57	47	41	S. E.	8	.32	108	0	0	0	0	....	....	....	....	49.7	Clear.
	5 2 p. m.	30.28	59	53	53	46	54	S.	10	.50	....	0	0	0	0	....	....	....	....	...	Clear.
	9 0 p. m.	30.30	59	45	45	42	76	S. W.	6	.18	....	0	0	0	0	....	....	....	....	....	Clear.
	11 27 p. m.	30.34	59	44	44	42	83	S. E.	2	.02	....	0	0	0	0	....	....	....	....	....	Clear.

Meteorological record for the five days ending May 25, 1873.

Wednesday, May 21	7 0 a. m.	30.35	60	48	48	44	70	S.	4	.08	....	0	0	0	0	....	....	....	....	....	Clear.
	8 2 a. m.	30.37	64	54	54	47	55	S.	4	.08	....	0	0	0	0	....	....	....	....	....	Clear.
	12 27 p. m.	30.34	62	59	59	49	43	S. E.	10	.50	....	0	0	Hazy	...	....	....	....	....	....	Fair.
	2 0 p. m.	30.34	61	55	55	47	50	S.	16	1.28	144	0	0	Hazy	....	....	....	....	....	49.7	Fair.
	5 2 p. m.	30.30	62	51	51	45	59	S.	12	.72	....	Stratus	2·4	Cumulus	2·4	....	....	....	....	....	Cloudy.
	9 0 p. m.	30.30	62	48	48	45	77	S.	8	.32	....	Stratus	2·4	Hazy	....	....	....	....	....	....	Fair.
	11 27 p. m.	30.27	60	45	45	43	84	S. W.	10	.50	....	Stratus	2 4	Hazy	....	....	....	....	....	....	Cloudy.
Thursday, May 22..	7 0 a. m.	30.25	59	45	45	44	92	S.	4	.08	....	Stratus	4·4	Hidden	....	....	....	....	....	....	Light rain.
	8 2 a. m.	30.24	59	25	45	44	92	S.	6	.18	....	Nimbus	4·4	Hidden	....	....	2.00 a. m.	....	.19	....	Light rain.
	12 27 p. m.	30.21	59	49	49	48	93	S. W.	6	.18	....	Stratus	4·4	Hidden	....	....	....	....	....	....	Cloudy.
	2 0 p. m.	30.18	61	50	50	49	92	S.	8	.32	210	Stratus	4·4	Hidden	....	....	....	....	....	48.2	Cloudy.
	5 2 p. m.	30.15	60	50	50	48.5	89	S.	6	.18	...	Stratus	4·4	Hidden	....	....	....	11.30 a. m.	.11	....	Cloudy.
	9 0 p. m.	30.14	61	49	49	48	92	0	0	0	....	Stratus	4·4	Hidden	....	....	....	....	....	....	Cloudy.
	11 27 p. m.	30.10	61	48	48	47	92	0	0	0	....	Stratus	2·4	Hazy	....	....	....	....	....	....	Clearing.

Meteorological record for the five days ending May 15, 1873—Continued.

Day and date of observation.	Time of observation.	Barometer.	THERM.		HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer—daily mean.	Remarks.
			Attached.	Exposed.	Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.			
Monday, May 12	7 0 a. m.	29.62	62	50	50	49	96	S. W.	2	.02		Stratus	4-4	Hidden						°	Cloudy.
	8 2 a. m.	29.63	63	51	51	50	96	S. W.	2	.02		Nimbus	4-4	Hidden					.10		Light rain.
	12 27 p. m.	29.60	63	59	59	54	70	W.	2	.02		Stratus	2-4	Cumulus	2-4						Cloudy.
	2 0 p. m.	29.61	63	62	62	55	61	N. W.	4	.08	110	Stratus	2-4	Cumulus	2-4					54.5	Cloudy.
	5 2 p. m.	29.63	63	61	61	55	65	N.	4	.08		0	0	Cumulus	2-4	S. W.		9.00 a. m.	.04		Fair.
	9 0 p. m.	29.69	61	53	53	48	66	0	0	0		0	0	0	0						Clear.
	11 27 p. m.	29.71	60	43	43	39	67	0	0	0		0	0	0	0						Clear.
Tuesday, May 13	7 0 a. m.	29.67	64	51	51	47	72	S. W.	2	.02		0	0	0	0						Clear.
	8 2 a. m.	29.64	62	55	55	48	56	S.	6	.18		0	0	0	0						Clear.
	12 27 p. m.	29.48	62	52	52	47	66	S.	8	.32		Stratus	4-4	Hidden							Cloudy.
	2 0 p. m.	29.44	61	56	56	50	62	S.	12	.72	72	0	0	0	0					50.7	Clear.
	5 2 p. m.	29.38	60	58	58	54	75	S. W.	4	.08		Stratus	1-4	Cumulus	1-4	S. W.					Fair.
	9 0 p. m.	29.55	56	48	48	40	42	N. W.	12	.72		0	0	0	0						Clear.
	11 27 p. m.	29.61	58	44	44	38	66	N. W.	2	.02		0	0	0	0						Clear.
Wednesday, May 14	7 0 a. m.	29.68	59	47	47	39	41	S. W.	8	.32		0	0	0	0						Clear.
	8 2 a. m.	29.68	62	48	48	39	35	W.	12	.72		0	0	0	0						Clear.
	12 27 p. m.	29.62	64	53	53	51	86	S. W.	16	1.28		Stratus	1-4	Cumulus	1-4	W.					Fair.
	2 0 p. m.	29.60	60	53	53	42	30	W.	12	.72	239	0	0	Cumulus	3-4	W.				47.0	Cloudy.
	5 2 p. m.	29.60	63	53	53	42	30	N. W.	12	.72		0	0	Cumulus	1-4	N.					Fair.
	9 0 p. m.	29.63	60	44	44	38	52	S. W.	4	.08		Stratus	1-4	Cirrus	2-4	W.					Cloudy.
	11 27 p. m.	29.62	58	42	42	36	50	W.	4	.08		Stratus	2-4	Cirro-cum	2-4	W.					Cloudy.
Thursday, May 15	7 0 a. m.	29.65	59	45	45	38	56	N. W.	16	1.28		0	0	Cirrus	1-4	W.					Fair.
	8 2 a. m.	29.66	62	47	47	38	46	N. W.	12	.72		0	0	Cirrus	1-4	W.					Fair.
	12 27 p. m.	29.67	61	58	58	46	32	N. W.	12	.72		0	0	Cirrus	1-4	W.					Fair.
	2 0 p. m.	29.70	65	61	61	47	25	N. W.	8	.32	238	0	0	Cumulus	1-4	N. W.				50.5	Fair.
	5 2 p. m.	29.74	65	58	58	46	31	N. W.	12	.72		0	0	Cumulus	1-4	N.					Fair.
	9 0 p. m.	29.80	62	48	48	42	56	N. W.	8	.32		0	0	0	0						Clear.
	11 27 p. m.	29.81	61	45	45	41	68	N. W.	2	.02		0	0	0	0						Clear.

Meteorological record for the five days ending May 20, 1873.

Friday, May 16	7 0 a. m.	29.81	60	49	49	43	57	W.	4	.08		Stratus	2-4	Cirro-cum.	2-4	N.					Cloudy.
	8 2 a. m.	29.82	60	51	51	45	59	W.	4	.08		Stratus	2-4	Cirro-cum	2-4	N.					Cloudy.
	12 27 p. m.	29.80	66	58	58	48	42	S.	10	.50		Stratus	1-4	Cumulus	1-4	W.					Fair.
	2 0 p. m.	29.81	69	59	59	49	43	S. W.	8	.32	129	0	0	Cumulus	2-4	N.				53.0	Fair.

Cloudy.
Cloudy.
Fair.
Fair.
Cloudy.
Cloudy.
Fair.
Cloudy.
Cloudy.
Light rain.
Cloudy.
Clearing.
Fair.
Fair.
Clear.
Clear.
Cloudy.
Cloudy.
Cloudy.
Cloudy.

12.10 a.m.

Meteorological record for the five days ending May 25, 1873—Continued.

Day and date of observation.	Time of observation.	Barometer.	THERM.		HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer—daily mean.	Remarks.
			Attached.	Exposed.	Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.			
Friday, May 23	7 0 a. m.	30.01	60	53	53	52	93	S.	2	.02	....	Stratus ...	4-4	Hidden ...	....	......	....	....	....	°	Cloudy.
	8 2 a. m.	30.05	60	55	55	54	93	0	0	0	....	Stratus ...	4-4	Hidden ...	....	......	....	....	....	....	Threatening.
	12 27 p. m.	30.01	65	65	65	59	68	S.	12	.72	...	0	0	Cumulus..	1-4	S. W.	....	....	....	....	Fair.
	2 2 p. m.	30.00	64	62	62	58	67	S.	16	1.28	71	0	0	Cumulus..	2-4	S. W.	....	....	....	56.7	Fair.
	5 8 p. m.	29.94	64	60	60	56.5	79	S.	8	.32	....	Stratus ...	2-4	Cumulus..	2-4	W.	....	....	....	....	Cloudy.
	9 0 p. m.	29.88	61	56	56	53	80	S. W.	12	.72	....	Stratus ...	1-4	Hazy	....	......	....	....	....	....	Fair.
	11 27 p. m.	29.84	62	55	55	51	93	S. W.	8	.32	....	Stratus ...	1-4	Hazy	....	......	....	....	....	....	Fair.
Saturday, May 24	7 0 a. m.	29.70	63	57	57	56	93	S.	12	.72	...	Fog	4-4	Hidden ...	....	......	....	....	....	....	Foggy.
	8 2 a. m.	29.69	63	57	57	56	93	S.	10	.50	....	Fog	4-4	Hidden ...	....	......	....	....	....	....	Foggy.
	12 27 p. m.	29.58	68	71	71	64	66	S.	12	.72	..	0	0	0	0	......	....	....	....	....	Clear.
	2 0 p. m.	29.52	68	68	68	62	69	S.	12	.72	255	0	0	Cumulus..	1-4	S. W.	....	....	....	65.7	Fair.
	5 2 p. m.	29.56	71	75	75	64	51	N.	2	.02	....	Stratus ...	1-4	Cumulus..	2-4	S. W.	....	....	....	....	Cloudy.
	9 0 p. m.	29.66	60	69	69	66	84	N. W.	12	.72	....	Stratus ...	1-4	0	0	......	....	....	....	....	Fair.
	11 27 p. m.	29.69	67	61	61	55	65	S. W.	2	.02	...	0	0	0	0	......	....	....	....	....	Clear.
Sunday, May 25	7 0 a. m.	29.80	69	66	66	58	59	N. W.	6	.18	....	0	0	0	0	......	....	....	....	....	Clear.
	8 2 a. m.	29.82	71	68	68	58	51	N. W.	8	.32	....	0	0	Cumulus..	1-4	N. W.	....	....	....	....	Fair.
	12 27 p. m.	29.87	71	73	73	59	38	E.	6	.18	...	0	0	0	0	......	....	....	....	....	Clear.
	2 0 p. m.	29.90	72	76	76	61	37	E.	4	.08	152	0	0	0	0	......	....	....	....	66.5	Clear.
	5 2 p. m.	29.93	72	69	69	58	47	S.	8	.32	....	0	0	0	0	......	....	....	....	....	Clear.
	9 0 p. m.	30.00	66	62	62	56	66	S. W.	8	.32	...	0	0	0	0	......	....	....	....	....	Clear.
	11 27 p. m.	30.02	66	61	61	55	65	S. W.	10	.50	....	0	0	0	0	......	....	....	....	....	Clear.

Meteorological record for the five days ending May 30, 1873.

Day and date of observation.	Time of observation.	Barometer.	Attached.	Exposed.	Dry bulb.	Wet bulb.	Relative humidity.	Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Lower clouds, kind.	Amount.	Upper clouds, kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.	Amount of rain or melted snow.	Thermometer—daily mean.	Remarks.
Monday, May 26	7 0 a. m.	30.11	68	63	63	57	67	W.	2	.02	...	0	0	0	0	......	....	....	....	....	Clear.
	8 2 a. m.	30.12	71	68	68	60	60	0	0	0	...	0	0	Cirrus	1-4	W.	....	....	....	....	Fair.
	12 27 p. m.	30.10	73	72	72	61	49	S.	12	.72	.	0	0	Cirrus	2-4	W.	....	....	....	...	Fair.
	2 0 p. m.	30.10	72	72	72	61	49	S.	12	.72	141	0	0	Cirro-cum	2-4	W.	....	....	....	63.7	Fair.
	5 2 p. m.	30.07	67	63	63	54	51	S. W.	12	.72	...	0	0	Cumulus..	2-4	W.	....	....	....	....	Fair.
	9 0 p. m.	30.00	67	60	60	53	59	S. W.	12	.72	....	Stratus ...	1-4	0	0	......	....	....	....	....	Fair.
	11 27 p. m.	30.07	67	57	57	53	75	S. W.	12	.72	....	Stratus ...	4-4	Hidden ...	....	......	....	....	....	...	Cloudy.
Tuesday, May 27	7 0 a. m.	30.03	67	60	60	55	71	S.	8	.32	....	0	0	Cirro-cum.	1-4	W.	....	....	....	....	Fair.
	8 2 a. m.	30.01	70	60	60	55	71	S.	8	.32	...	Stratus ...	1-4	Cirrus	1-4	W.	....	....	....	....	Fair.
	12 27 p. m.	29.98	67	64	64	56	57	S.	12	.72	...	0	0	Cirrus	1-4	N. W.	....	....	....	....	Fair.
	2 0 p. m.	29.96	67	60	60	55	71	S.	8	.32	239	0	0	Cirro-cum.	2-4	N. W.	....	....	....	58.0	Fair.

	5 2 p. m.	29. 89	66	58	58	54	75	S.	14	.98	....	Hazy	....	Cirro-cum.	2-4	......	....	....	....	....	Cloudy.
	9 0 p. m.	29. 85	66	56	56	52	74	S. W.	8	.32	....	Stratus ...	1-4	0	0	......	....	....	....	....	Fair.
	11 27 p. m.	29. 84	65	54	54	52	86	S. W.	12	.72	....	Stratus ...	1-4	Hazy	....	......	....	....	....	....	Fair.
Wednesday, May 28	7 0 a. m.	29. 78	65	60	60	56	76	S. W.	12	.72	....	0	0	Cirrus	1-4	......	....	....	....	....	Fair.
	8 2 a. m.	29. 78	68	67	67	61	69	S.	10	.50	....	0	0	Cirrus	1-4	......	....	....	....	....	Fair.
	12 27 p. m.	29. 74	72	70	70	65	75	S.	6	.18	....	0	0	Cirrus	3-4	S. W.	....	....	....	....	Cloudy.
	2 0 p. m.	29. 73	71	72	72	64	62	S.	12	.72	259	0	0	Cirro-cum.	2-4	S. W.	....	....	....	68. 5	Fair.
	5 2 p. m.	29. 73	71	71	71	68	85	S.	8	.32	....	Stratus ...	2-4	Cumulus..	2-4	S. W.	4.20 p. m.	5.10 p. m.	.02	....	Light rain.
	9 0 p. m.	29. 75	71	71	71	65	70	S. W.	6	.18	....	Stratus ...	1-4	Cumulus..	1-4	S. W.	....	....	....	....	Fair.
	11 27 p. m.	29. 78	70	70	70	64	70	S. W.	8	.32	....	Stratus ...	2-4	Cumulus..	2-4	......	....	....	....	....	Cloudy.
Thursday, May 29..	7 0 a. m.	29. 91	70	70	70	61	57	W.	4	.08	....	0	0	Cirrus	1-4	W.	....	....	....	....	Fair.
	8 2 a. m.	29. 91	73	73	73	62	50	N. W.	4	.08	....	0	0	0	0	......	....	....	....	....	Clear.
	12 27 p. m.	29. 93	75	78	78	64	42	S.	8	.32	....	0	0	Cumulus..	1-4	W.	....	....	....	....	Fair.
	2 0 p. m.	29. 94	75	76	76	63	44	S.	8	.32	172	0	0	Cumulus..	1-4	W.	....	....	....	67. 0	Fair.
	5 2 p. m.	29. 91	71	71	71	62	57	S.	8	.32	....	0	0	Cirro-cum.	1-4	W.	....	....	....	....	Fair.
	9 0 p. m.	29. 91	68	61	61	56	71	S.	8	.32	....	0	0	0	0	......	....	....	....	....	Clear.
	11 27 p. m.	29. 88	68	62	62	57	71	S. W.	8	.32	....	0	0	0	0	......	....	....	....	....	Clear.
Friday, May 30.....	7 0 a. m.	29. 96	67	58	58	51	58	N.	10	.50	....	0	0	Cirro-cum.	1-4	W.	....	....	....	....	Fair.
	8 2 a. m.	29. 97	66	58	58	50	53	N.	12	.72	....	Stratus ...	1-4	Cumulus..	1-4	W.	....	....	....	....	Fair.
	12 27 p. m.	30. 01	65	60	60	45	19	N.	16	1. 28	....	0	0	0	0	......	....	....	....	....	Clear.
	2 0 p. m.	30. 03	67	65	65	49	22	N. W.	8	.32	203	0	0	0	0	......	....	....	....	56. 7	Clear.
	5 2 p. m.	30. 0[illegible]	66	63	63	42	30	N.	10	.50	....	0	0	0	0	......	....	....	....	....	Clear.
	9 0 p. m.	30. 18	60	52	52	42	35	N. W.	4	.08	....	0	0	0	0	......	....	....	....	....	Clear.
	11 27 p. m.	30. 21	60	48	48	41	49	0	0	0	....	0	0	0	0	......	....	....	....	....	Clear.

Meteorological record for May 31, 1873.

Saturday, May 31..	7 0 a. m.	30. 37	61	50	50	40	32	N. W.	4	.08	....	0	0	0	0	......	....	....	....	....	Clear.
	8 2 a. m.	30. 37	60	50	59	39	26	N.	8	.32	....	0	0	0	0	......	....	....	....	....	Clear.
	12 27 p. m.	30. 34	62	61	61	45	16	S. W.	4	.08	....	0	0	0	0	......	....	....	....	....	Clear.
	2 0 p. m.	30. 32	62	55	55	44	33	S.	12	.72	1. 80	0	0	0	0	......	....	....	....	50. 2	Clear.
	5 2 p. m.	30. 30	63	53	53	45	48	S. W.	18	1. 62	....	0	0	0	0	......	....	....	....	....	Clear.
	9 0 p. m.	30. 30	60	48	48	43	63	S. W.	12	.72	....	0	0	0	0	......	....	....	....	....	Clear.
	11 27 p. m.	30. 27	60	46	46	42	69	S. W.	4	.08	....	0	0	0	0	......	....	....	....	....	Clear.

Meteorological record for the five days ending June 5, 1873.

Sunday, June 1.....	7 0 a. m.	30. 18	61	56	56	49	57	S. W.	6	.18	....	0	0	0	0	......	....	....	....	....	Clear.
	8 2 a. m.	30. 18	64	62	62	52	46	W.	8	.32	....	0	0	0	0	......	....	....	....	....	Clear.
	12 27 p. m.	30. 05	71	75	75	55	19	S. W.	16	1. 28	....	0	0	Cirrus.....	1-4	N. W.	....	....	....	....	Fair.
	2 0 p. m.	30 03	71	74	74	55	21	W.	16	1. 28	216	Stratus ...	1-4	Cirrus.....	1-4	W.	....	....	....	....	Cloudy.
	5 2 p. m.	29. 97	71	76	76	56	20	S. W.	14	.98	....	0	0	Cirrus.....	1-4	W.	....	....	....	....	Fair.
	9 0 p. m.	29. 98	68	67	67	54	37	S. W.	4	.08	....	0	0	Hazy	....	......	....	....	....	....	Fair.
	11 27 p. m.	29. 98	67	65	65	53	39	S. W.	4	.08	....	0	0	Cumulus ..	1-4	N. W.	....	....	....	....	Fair.

Meteorological record for the five days ending June 5, 1873—Continued.

Day and date of observation.	Time of observation.	Barometer.	THERM.		HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer—daily mean.	Remarks.
			Attached.	Exposed.	Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Monday, June 2....	7 0 a. m.	30.19	64	53	53	45	48	N. E.	12	.72	....	0	0	0	0	....	....	....	....	....	Clear.
	8 2 a. m.	30.20	66	58	58	47	37	N.	8	.32	....	0	0	0	0	....	....	....	....	....	Clear.
	12 27 p. m.	30.17	68	66	66	49	19	S. W.	10	.50	....	0	0	0	0	....	....	....	....	....	Fair.
	2 0 p. m.	30.13	64	62	62	49	30	S. W.	12	.72	230	0	0	0	0	....	....	....	....	....	Clear.
	5 2 p. m.	30.09	63	58	58	49	47	S. W.	8	.32	....	0	0	Cirrus.....	1-4	N. W.	....	....	....	....	Fair.
	9 0 p. m.	30.19	60	57	57	47	41	N. E.	8	.32	....	0	0	Hazy.....	....	....	....	....	....	....	Fair.
	11 27 p. m.	30.18	61	55	55	46	44	N.	4	.08	....	0	0	0	0	....	....	....	....	....	Clear.
Tuesday, June 3....	7 0 a. m.	30.30	60	49	49	41	44	N. E.	8	.32	....	0	0	Cirrus.....	4-4	....	....	....	....	....	Cloudy.
	8 2 a. m.	30.32	61	51	51	42	40	N. E.	10	.50	....	Stratus...	1-4	Cirrus.....	1-4	N. W.	....	....	....	....	Fair.
	12 27 p. m.	30.26	63	60	60	47	29	S.	6	.18	....	0	0	Cirrus.....	2-4	....	....	....	....	....	Fair.
	2 0 p. m.	30.23	65	57	57	46	35	S.	8	.32	175	0	0	Cirrus.....	2-4	W.	....	....	....	....	Fair.
	5 2 p. m.	30.19	63	54	54	44	37	S.	8	.32	....	0	0	Hazy.....	....	....	....	....	....	....	Fair.
	9 0 p. m.	30.15	61	49	49	44	63	S. W.	12	.72	....	0	0	Hazy.....	....	....	....	....	....	....	Fair.
	11 27 p. m.	30.12	60	47	47	42	62	S. W.	8	.32	....	0	0	Cirrus.....	1-4	N. W.	....	....	....	....	Fair.
Wednesday, June 4.	7 0 a. m.	29.96	58	48	48	45	78	S. W.	8	.32	....	Stratus...	4-4	Hidden....	....	....	....	....	....	....	Cloudy.
	8 2 a. m.	29.97	58	48	48	45	78	S. W.	8	.32	....	Stratus...	4-4	Hidden....	....	....	....	....	....	....	Cloudy.
	12 27 p. m.	29.82	59	48	48	45	78	S. W.	8	.32	....	Nimbus...	4-4	Hidden....	....	....	....	....	....	....	Light rain.
	2 0 p. m.	29.77	61	52	53	48	66	S.	12	.72	214	Stratus...	2-4	Cirrus.....	2-4	....	....	....	—	....	Cloudy.
	5 2 p. m.	29.63	66	55	55	51	74	S.	12	.72	....	Stratus...	1-4	Cirrus.....	1-4	N. W.	9.30 a. m.	1.00 p. m.	.02	....	Fair.
	9 0 p. m.	29.53	65	53	53	52	93	0	0	0	...	Nimbus...	4-4	Hidden....	....	....	....	....	....	....	Light rain.
	11 27 p. m.	29.48	63	53	53	52	93	N.	8	.32	....	Stratus...	4-4	Hidden....	....	....	9.00 p. m.	....	.02	....	Cloudy.
Thursday, June 5...	7 0 a. m.	29.58	65	53	53	50	80	N. E.	6	.18	....	0	0	Cumulus..	1-4	....	....	....	....	....	Fair.
	8 2 a. m.	29.59	63	52	52	50	86	N. E.	6	.18	....	Stratus...	1-4	Cumulus..	2-4	N. W.	....	4.00 a. m.	.11	....	Cloudy.
	12 27 p. m.	29.62	62	56	56	52	71	S. E.	8	.32	....	0	0	Cumulus..	1-4	....	....	....	....	....	Fair.
	2 0 p. m.	29.64	63	57	57	52	69	S. E.	12	.72	164	0	0	0	0	....	....	....	....	....	Clear.
	5 2 p. m.	29.63	62	52	52	50	86	S.	8	.32	....	Stratus...	2-4	Cumulus..	1-4	W.	3.30 p. m.	....	.02	....	Cloudy.
	9 0 p. m.	29.66	61	49	49	48	92	S. E.	6	.18	....	Stratus...	4-4	Hidden....	....	....	....	....	....	....	Cloudy.
	11 27 p. m.	29.70	61	49	49	48	92	S. E.	2	.02	....	Stratus...	4-4	Hidden....	....	....	....	8.00 p. m.	.05	....	Cloudy.

Meteorological record for the five days ending June 10, 1873.

Day and date of observation.	Time of observation.	Barometer.	Attached.	Exposed.	Dry bulb.	Wet bulb.	Relative humidity.	Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Lower clouds, kind.	Lower clouds, amount.	Upper clouds, kind.	Upper clouds, amount.	Direction, (moving from—)	Commen'd.	Ended.	Amount of rain or melted snow.	Thermometer—daily mean.	Remarks.
Friday, June 6.....	7 0 a. m.	29.73	60	51	51	51	100	N. E.	6	.18	....	Fog......	4-4	Hidden...	....	....	....	....	....	....	Foggy.
	8 2 a. m.	29.75	60	52	52	51	93	N. E.	4	.08	....	Fog......	4-4	Hidden...	....	....	....	....	....	....	Dense fog.
	12 27 p. m.	29.76	62	53	53	51	86	S. E.	8	.32	..	Fog......	4-4	Hidden...	....	....	....	....	....	....	Foggy.
	2 0 p. m.	29.77	62	53	53	51.5	89	S. E.	8	.32	119	Fog......	4-4	Hidden...	....	....	....	....	....	....	Foggy.
	5 2 p. m.	29.78	61	50	50	50	100	E.	12	.72	...	Fog......	4-4	Hidden...	....	....	3.30 p. m.	....	.07	....	Foggy.
	9 0 p. m.	29.87	60	49	49	49	100	N. W.	6	.18	...	Nimbus...	4-4	Hidden...	....	....	....	....	....	....	Light rain.
	11 27 p. m.	29.85	61	51	51	51	100	S. E.	4	.08	....	Stratus...	2-4	Cumulus..	1-4	N. W.	....	....	.38	....	Clearing.

Saturday, June 7...	7 0 a. m.	29.85	60	49	49	49	100	0	0	0	....	Fog	4-4	Hidden	....	....	....	....	....	....	Light rain.
	8 2 a. m.	29.86	60	50	50	50	100	N. E.	2	.02	....	Stratus	4-4	Hidden	....	....	....	....	.11	....	Light rain.
	12 27 p. m.	29.85	63	62	62	57	72	S. E.	4	.08	....	Stratus	1-4	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	2 0 p. m.	29.88	63	56	56	55	93	S. E.	4	.08	115	Nimbus	4-4	Hidden	....	....	....	....	....	....	Light rain.
	5 2 p. m.	29.90	61	54	54	53	93	S. E.	1	.01	....	Stratus	3-4	Hidden	....	....	....	....	.23	....	Cloudy.
	9 0 p. m.	29.94	61	55	55	54	93	W.	4	.08	....	Nimbus	4-4	Hidden	....	....	....	....	....	....	Light rain.
	11 27 p. m.	29.95	61	55	55	53	86	N. W.	4	.08	....	Stratus	1-4	Cirrus	1-4	N. W.	....	9.30 p. m.	.02	....	Clearing.
Sunday, June 8....	7 0 a. m.	30.09	62	56	56	52	75	N. E.	16	1.28	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	8 2 a. m.	30.12	62	55	55	52	80	N. E.	16	1.28	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	12 27 p. m.	30.17	64	63	63	56	62	N. E.	12	.72	....	0	0	Cumulus	1-4	N. E.	....	....	....	....	Fair.
	2 0 p. m.	30.19	65	63	63	56	62	S. E.	4	.08	211	0	0	Cumulus	1-4	N. E.	....	....	....	....	Fair.
	5 2 p. m.	30.20	64	63	63	55	56	S. E.	4	.08	....	0	0	0	0	....	....	....	....	....	Clear.
	9 0 p. m.	30.18	61	56	56	52	74	S. W.	4	.08	....	0	0	0	0	....	....	....	....	....	Clear.
	11 27 p. m.	30.18	62	52	52	49	79	S. W.	2	.02	....	0	0	0	0	....	....	....	....	....	Clear.
Monday, June 9....	7 0 a. m.	30.17	63	58	58	52	64	N. E.	6	.18	....	0	0	0	0	....	....	....	....	....	Clear.
	8 2 a. m.	30.18	66	59	59	53	64	N. E.	8	.32	....	0	0	0	0	....	....	....	....	....	Clear.
	12 27 p. m.	30.12	65	65	65	51	31	N. E.	8	.32	....	0	0	0	0	....	....	....	....	....	Clear.
	2 0 p. m.	30.09	67	68	68	53	29	N. E.	6	.18	123	0	0	0	0	....	....	....	....	....	Clear.
	5 2 p. m.	30.01	67	69	69	56	39	S.	8	.32	...	0	0	0	0	....	....	....	....	....	Clear.
	9 0 p. m.	29.98	64	60	60	52	54	N. W.	8	.32	....	0	0	Cirro-cum.	1-4	N. W.	....	....	....	....	Fair.
	11 27 p. m.	29.97	62	56	56	51	68	0	0	0	....	0	0	Cirro-cum.	1-4	N. W.	....	....	....	....	Fair.
Tuesday, June 10...	7 0 a. m.	29.97	64	59	59	52	59	0	0	0	....	0	0	0	0	....	....	....	....	....	Clear.
	8 2 a. m.	29.98	66	59	59	51	54	N. E.	4	.08	....	0	0	0	0	....	....	....	....	....	Clear.
	12 27 p. m.	29.95	66	65	65	55	49	S.	10	.50	....	0	0	Cirrus	2-4	S. W.	....	....	....	....	Fair.
	2 0 p. m.	29.95	66	63	63	53	47	S.	8	.32	88	0	0	Cirrus	3-4	....	....	....	....	....	Cloudy.
	5 2 p. m.	29.93	65	63	63	54	51	S. E.	12	.72	....	0	0	0	0	....	....	....	....	....	Clear.
	9 0 p. m.	29.89	61	54	54	51	80	0	0	0	....	0	0	0	0	....	....	....	....	....	Clear.
	11 27 p. m.	29.87	61	53	53	51	86	0	0	0	....	Stratus	1-4	Cirro-cum.	2-4	N. W.	....	....	....	....	Cloudy.

Meteorological record for the five days ending June 15, 1873.

Wednesday, June 11	7 0 a. m.	29.76	62	56	56	55	93	S.	4	.08	....	Nimbus	4-4	Hidden	....	....	....	....	....	....	Heavy rain.
	8 2 a. m.	29.76	62	57	57	56	93	S. W.	8	.32	....	Stratus	4-4	Hidden	....	....	3.30 a. m.	....	.52	....	Light rain.
	12 27 p. m.	29.77	72	77	77	69	65	S. W.	12	.72	....	0	0	Cirro-strat	2-4	S. W.	....	....	....	....	Fair.
	2 0 p. m.	29.79	75	83	83	69	46	S. W.	12	.72	123	0	0	Cirro-cum	1-4	W.	....	....	....	....	Fair.
	5 2 p. m.	29.82	76	84	84	69	43	N. W.	8	.32	....	0	0	Cumulus	1-4	W.	....	8.10 a. m.	.02	....	Fair.
	9 0 p. m.	29.92	71	69	69	60	56	N. W.	2	.02	....	0	0	Cum-strat.	1-4	....	....	....	....	....	Fair.
	11 27 p. m.	29.97	71	66	66	58	58	N. W.	2	.02	....	0	0	0	0	....	....	....	....	....	Clear.
Thursday, June 12.	7 0 a. m.	30.01	67	63	63	55	57	N.	4	.08	....	0	0	0	0	....	....	....	....	....	Clear.
	8 2 a. m.	30.03	69	66	66	54	40	N.	6	.18	....	0	0	0	0	....	....	....	....	....	Clear.
	12 27 p. m.	30.05	70	72	72	56	30	N. W.	8	.32	....	0	0	0	0	....	....	....	....	....	Clear.
	2 0 p. m.	30.07	72	74	74	57	28	N. W.	8	.32	154	0	0	0	0	....	....	....	....	....	Clear.
	5 2 p. m	30.10	70	68	68	54	34	N.	10	.50	...	0	0	0	0	....	....	....	....	....	Clear.
	9 0 p. m.	30.17	65	58	58	51	58	N. W.	6	.18	....	0	0	0	0	....	....	....	....	....	Clear.
	11 27 p. m.	30.18	63	55	55	49	62	0	0	0	....	0		0	0	....	....	....	....	....	Clear.

Meteorological record for the five days ending June 5, 1873—Continued.

Day and date of observation.	Time of observation.	Barometer.	THERM.		HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer—daily mean.	Remarks.
			Attached.	Exposed.	Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Monday, June 2	7 0 a. m.	30.19	64	53	53	45	48	N. E.	12	.72		0	0	0	0						Clear.
	8 2 a. m.	30.20	66	58	58	47	37	N.	8	.32		0	0	0	0						Clear.
	12 27 p. m.	30.17	66	66	66	49	19	S. W.	10	.50		0	0	0	0						Fair.
	2 0 p. m.	30.13	64	62	62	49	30	S. W.	12	.72	230	0	0	0	0						Clear.
	5 2 p. m.	30.09	63	58	58	49	47	S. W.	8	.32		0	0	Cirrus	1-4	N. W.					Fair.
	9 0 p. m.	30.19	60	57	57	47	41	N. E.	8	.32		0	0	Hazy							Fair.
	11 27 p. m.	30.18	61	55	55	46	44	N.	4	.08		0	0	0	0						Clear.
Tuesday, June 3	7 0 a. m.	30.30	60	49	49	41	44	N. E.	8	.32		0	0	Cirrus	4-4						Cloudy.
	8 2 a. m.	30.32	61	51	51	42	40	N. E.	10	.50		Stratus	1-4	Cirrus	1-4	N. W.					Fair.
	12 27 p. m.	30.26	63	60	60	47	29	S.	6	.18		0	0	Cirrus	2-4						Fair.
	2 0 p. m.	30.23	65	57	57	46	35	S.	8	.32	175	0	0	Cirrus	2-4	W.					Fair.
	5 2 p. m.	30.19	63	54	54	44	37	S.	8	.32		0	0	Hazy							Fair.
	9 0 p. m.	30.15	61	49	49	44	63	S. W.	12	.72		0	0	Hazy							Fair.
	11 27 p. m.	30.12	60	47	47	42	63	S. W.	8	.32		0	0	Cirrus	1-4	N. W.					Fair.
Wednesday, June 4	7 0 a. m.	29.96	58	48	48	45	78	S. W.	8	.32		Stratus	4-4	Hidden							Cloudy.
	8 2 a. m.	29.95	58	48	48	45	78	S. W.	8	.32		Stratus	4-4	Hidden							Cloudy.
	12 27 p. m.	29.82	59	48	48	45	78	S. W.	8	.32		Nimbus	4-4	Hidden							Light rain.
	2 0 p. m.	29.77	61	53	53	48	66	S.	12	.72	214	Stratus	2-4	Cirrus	2-4						Cloudy.
	5 2 p. m.	29.63	66	55	55	51	74	S.	12	.72		Stratus	1-4	Cirrus	1-4	N. W.	9.30 a. m.	1.00 p. m.	.02		Fair.
	9 0 p. m.	29.53	65	53	53	52	93	0	0	0		Nimbus	4-4	Hidden							Light rain.
	11 27 p. m.	29.4	63	53	53	52	93	N.	8	.32		Stratus	4-4	Hidden			9.00 p. m.		.02		Cloudy.
Thursday, June 5	7 0 a. m.	29.58	65	53	53	50	80	N. E.	6	.18		0	0	Cumulus	1-4						Fair.
	8 2 a. m.	29.59	63	52	52	50	86	N. E.	6	.18		Stratus	1-4	Cumulus	2-4	N. W.		4.00 a. m.	.11		Cloudy.
	12 27 p. m.	29.62	62	56	56	52	74	S. E.	8	.32		0	0	Cumulus	1-4						Fair.
	2 0 p. m.	29.61	63	57	57	52	69	S. E.	12	.72	164	0	0	0	0						Clear.
	5 2 p. m.	29.63	62	52	52	50	86	S.	8	.32		Stratus	2-4	Cumulus	1-4	W.	3.30 p. m.		.02		Cloudy.
	9 0 p. m.	29.68	61	49	49	48	92	S. E.	6	.18		Stratus	4-4	Hidden							Cloudy.
	11 27 p. m.	29.70	61	49	49	48	92	S. E.	2	.02		Stratus	4-4	Hidden				8.00 p. m.	.05		Cloudy.

Meteorological record for the five days ending June 10, 1873.

Day and date of observation.	Time of observation.	Barometer.	Attached.	Exposed.	Dry bulb.	Wet bulb.	Relative humidity.	Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.	Amount of rain or melted snow.	Thermometer—daily mean.	Remarks.
Friday, June 6	7 0 a. m.	29.73	60	51	51	51	100	N. E.	6	.18		Fog	4-4	Hidden							Foggy.
	8 2 a. m.	29.75	60	52	52	51	93	N. E.	4	.08		Fog	4-4	Hidden							Dense fog.
	12 27 p. m.	29.76	62	53	53	51	86	S. E.	8	.32		Fog	4-4	Hidden							Foggy.
	2 0 p. m.	29.77	62	53	53	51.5	89	S. E.	8	.32	119	Fog	4-4	Hidden							Foggy.
	5 2 p. m.	29.78	61	50	50	50	100	E.	12	.72		Fog	4-4	Hidden			3.30 p. m.		.07		Foggy.
	9 0 p. m.	29.87	60	49	49	49	100	N. W.	6	.18		Nimbus	4-4	Hidden							Light rain.
	11 27 p. m.	29.85	61	51	51	51	100	S. E.	4	.08		Stratus	2-4	Cumulus	1-4	N. W.			.38		Clearing.

Saturday, June 7	7 0 a. m.	29.85	60	49	49	49	100	0	0	0		Fog	4-4	Hidden							Light rain.
	8 2 a. m.	29.86	60	50	50	50	100	N. E.	2	.02		Stratus	4-4	Hidden					.11		Light rain.
	12 27 p. m.	29.85	63	62	62	57	72	S. E.	4	.08		Stratus	1-4	Cumulus	1-4	N. W.					Fair.
	2 0 p. m.	29.88	63	56	56	55	93	S. E.	4	.08	115	Nimbus	4-4	Hidden							Light rain.
	5 2 p. m.	29.90	61	54	54	53	93	S. E.	1	.01		Stratus	3-4	Hidden					.23		Cloudy.
	9 0 p. m.	29.94	61	55	55	54	93	W.	4	.08		Nimbus	4-4	Hidden							Light rain.
	11 27 p. m.	29.95	61	55	55	53	86	N. W.	4	.08		Stratus	1-4	Cirrus	1-4	N. W.		9.30 p. m.	.02		Clearing.
Sunday, June 8	7 0 a. m.	30.09	62	56	56	52	75	N. E.	16	1.28		Stratus	4-4	Hidden							Cloudy.
	8 2 a. m.	30.12	62	55	55	52	80	N. E.	16	1.28		Stratus	4-4	Hidden							Cloudy.
	12 27 p. m.	30.17	64	63	63	56	62	N. E.	12	.72		0	0	Cumulus	1-4	N. E.					Fair.
	2 0 p. m.	30.19	65	63	63	56	62	S. E.	4	.08	211	0	0	Cumulus	1-4	N. E.					Fair.
	5 2 p. m.	30.20	64	63	63	55	56	S. E.	4	.08		0	0	0	0						Clear.
	9 0 p. m.	30.18	61	56	56	52	74	S. W.	4	.08		0	0	0	0						Clear.
	11 27 p. m.	30.18	62	52	52	49	79	S. W.	2	.02		0	0	0	0						Clear.
Monday, June 9	7 0 a. m.	30.17	63	58	58	52	64	N. E.	6	.18		0	0	0	0						Clear.
	8 2 a. m.	30.18	66	59	59	53	64	N. E.	8	.32		0	0	0	0						Clear.
	12 27 p. m.	30.12	65	65	65	51	31	N. E.	8	.32		0	0	0	0						Clear.
	2 0 p. m.	30.09	67	68	68	53	29	N. E.	6	.18	123	0	0	0	0						Clear.
	5 2 p. m.	30.01	67	69	69	56	39	S.	8	.32		0	0	0	0						Clear.
	9 0 p. m.	29.98	64	60	60	52	54	N. W.	8	.32		0	0	Cirro-cum.	1-4	N. W.					Fair.
	11 27 p. m.	29.97	62	56	56	51	68	0	0	0		0	0	Cirro-cum.	1-4	N. W.					Fair.
Tuesday, June 10	7 0 a. m.	29.97	64	59	59	52	59	0	0	0		0	0	0	0						Clear.
	8 2 a. m.	29.98	66	59	59	51	54	N. E.	4	.08		0	0	0	0						Clear.
	12 27 p. m.	29.95	66	65	65	55	49	S.	10	.50		0	0	Cirrus	2-4	S. W.					Fair.
	2 0 p. m.	29.95	66	63	63	53	47	S.	8	.32	88	0	0	Cirrus	3-4						Cloudy.
	5 2 p. m.	29.93	65	63	63	54	51	S. E.	12	.72		0	0	0	0						Clear.
	9 0 p. m.	29.89	61	54	54	51	80	0	0	0		0	0	0	0						Clear.
	11 27 p. m.	29.87	61	53	53	51	86	0	0	0		Stratus	1-4	Cirro-cum.	2-4	N. W.					Cloudy.

Meteorological record for the five days ending June 15, 1873.

Wednesday, June 11	7 0 a. m.	29.76	62	56	56	55	93	S.	4	.08		Nimbus	4-4	Hidden							Heavy rain.
	8 2 a. m.	29.76	62	57	57	56	93	S. W.	8	.32		Stratus	4-4	Hidden			3.30 a. m.		.52		Light rain.
	12 27 p. m.	29.77	72	77	77	69	65	S. W.	12	.72		0	0	Cirro-strat	2-4	S. W.					Fair.
	2 0 p. m.	29.79	75	83	83	69	46	S. W.	12	.72	123	0	0	Cirro-cum.	1-4	W.					Fair.
	5 2 p. m.	29.82	76	84	84	69	43	N. W.	8	.32		0	0	Cumulus	1-4	W.		8.10 a. m.	.02		Fair.
	9 0 p. m.	29.92	71	69	69	60	56	N. W.	2	.02		0	0	Cum-strat.	1-4						Fair.
	11 27 p. m.	29.97	71	66	66	58	58	N. W.	2	.02		0	0	0	0						Clear.
Thursday, June 12	7 0 a. m.	30.01	67	63	63	55	57	N.	4	.08		0	0	0	0						Clear.
	8 2 a. m.	30.03	69	66	66	54	49	N.	6	.18		0	0	0	0						Clear.
	12 27 p. m.	30.05	70	72	72	56	30	N. W.	8	.32		0	0	0	0						Clear.
	2 0 p. m.	30.07	72	74	74	57	28	N. W.	8	.32	154	0	0	0	0						Clear.
	5 2 p. m.	30.10	70	68	68	54	34	N.	10	.50		0	0	0	0						Clear.
	9 0 p. m.	30.17	65	58	58	51	58	N. W.	6	.18		0	0	0	0						Clear.
	11 27 p. m.	30.18	63	55	55	49	62	0	0	0		0		0	0						Clear.

Meteorological record for the five days ending June 15, 1873—Continued.

Day and date of observation.	Time of observation.	Barometer.	THERM.		HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melting snow.	Thermometer—daily mean.	Remarks.
			Attached.	Exposed.	Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'd.	Ended.			
Friday, June 13	7 0 a. m.	30. 22	66	61	61	54	60	0	0	0	....	0	0	0	0	....	....	....	....	°	Clear.
	8 2 a. m.	30. 24	68	64	64	54	48	N. E.	2	. 02	....	0	0	Cirrus	1-4	S. W.	....	....	....	....	Fair.
	12 27 p. m.	30. 26	68	69	69	55	35	S. E.	8	. 32	....	0	0	Cirrus	1-4	....	....	....	....	....	Fair.
	2 0 p. m.	30. 24	69	68	68	57	46	S.	8	. 32	117	0	0	0	0	....	....	....	....	....	Clear.
	5 2 p. m.	30. 19	66	65	65	55	48	S. W.	8	. 32	....	0	0	0	0	....	....	....	....	....	Clear.
	9 0 p. m.	30. 18	64	55	55	52	80	S. W.	6	. 18	....	0	0	0	0	....	....	....	....	....	Clear.
	11 27 p. m.	30. 18	64	53	53	51	86	S. W.	4	. 08	....	0	0	0	0	....	....	....	....	....	Clear.
Saturday, June 14	7 0 a. m.	30. 14	64	57	57	54	81	S. E.	4	. 08	....	0	0	0	0	....	....	....	....	....	Clear.
	8 2 a. m.	30. 16	66	59	59	54	70	E.	4	. 08	....	0	0	0	0	....	....	....	....	....	Clear.
	12 27 p. m.	30. 11	65	60	60	54	65	E.	8	. 32	....	0	0	0	0	....	....	....	....	....	Clear.
	2 0 p. m.	30. 10	66	61	61	55	65	E.	4	. 08	132	0	0	0	0	....	....	....	....	....	Clear.
	5 2 p. m	30. 04	65	55	55	52	80	E.	12	. 72	....	0	0	0	0	....	....	....	....	....	Clear.
	9 0 p. m.	30. 02	63	56	56	53	80	N. E.	10	. 50	....	Stratus	2-4	Cirrus	2-4	....	....	....	....	....	Cloudy.
	11 27 p. m.	29. 97	63	55	55	52	80	N. E.	6	. 18	....	Stratus	2-4	Cirrus	2-4	....	....	....	....	....	Cloudy.
Sunday, June 15	7 0 a. m.	29. 89	63	60	60	54	65	N.	8	. 32	....	Stratus	1-4	Cirrus	1-4	....	....	....	....	....	Fair.
	8 2 a. m.	29. 90	65	60	60	54	65	N.	8	. 32	....	Stratus	1-4	Cirrus	1-4	....	....	....	....	....	Fair.
	12 27 p. m.	29. 86	69	69	69	60	56	S.	8	. 32	....	0	0	0	0	....	....	....	....	....	Clear.
	2 0 p. m.	29. 85	69	69	69	60	56	S. W.	14	. 98	156	0	0	0	0	....	....	....	....	....	Clear.
	5 2 p. m.	29. 82	68	65	65	58	63	S.	12	. 72	....	0	0	0	0	....	....	....	....	....	Clear.
	9 0 p. m.	29. 80	64	60	60	57	82	0	0	0	....	0	0	0	0	....	....	....	....	....	Clear.
	11 27 p. m.	29. 79	66	59	59	57	87	0	0	0	....	0	0	0	0	....	....	....	....	....	Clear.

Meteorological record for the five days ending June 20, 1873.

Day and date of observation.	Time of observation.	Barometer.	Attached.	Exposed.	Dry bulb.	Wet bulb.	Relative humidity.	Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'd.	Ended.	Amount of rain or melting snow.	Thermometer—daily mean.	Remarks.
Monday, June 16	7 0 a. m.	29. 80	67	71	71	65	71	0	0	0	....	0	0	Hazy	....	....	....	....	....	....	Fair.
	8 2 a. m.	29. 82	70	70	70	64	70	0	0	0	....	0	0	Hazy	....	....	....	....	....	....	Fair.
	12 27 p. m.	29. 77	73	81	81	70	55	S. E.	4	. 08	....	0	0	Cum-strat	1-4	N. W.	....	....	....	....	Fair.
	2 0 p. m.	29. 77	76	82	82	68	45	S. W.	8	. 32	100	0	0	Cirrus	1-4	N. W.	....	....	....	....	Fair.
	5 2 p. m.	29. 71	76	77	77	65	66	S. W.	6	. 18	....	Hazy	....	Cirro-cum	3-4	....	....	....	....	....	Cloudy.
	9 0 p. m.	29. 70	74	73	73	68	76	W.	10	. 50	....	Stratus	2-4	Hazy	....	....	....	....	....	....	Cloudy.
	11 27 p. m.	29. 70	72	70	70	63	65	W.	12	. 72	....	Stratus	2-4	Cirrus	2-4	....	....	....	....	....	Cloudy.
Tuesday, June 17	7 0 a. m.	29. 73	70	67	67	59	59	W.	8	. 32	....	0	0	0	0	....	....	....	....	....	Clear.
	8 2 a. m.	29. 75	72	71	71	60	49	N. W.	8	. 82	....	0	0	0	0	....	....	....	....	....	Clear.
	12 27 a. m.	29. 82	74	75	75	57	26	N. E.	8	. 32	....	0	0	0	0	....	....	....	....	....	Clear.
	2 0 p. m.	29. 82	74	76	76	57	23	N.	12	. 72	172	0	0	0	0	....	....	....	....	....	Clear.

	5 2 p.m.	29.81	74	76	76	58	27	N. W.	6	.18	....	0	0	0	0	......	......	......	......	...	Clear.
	9 0 p.m.	29.86	69	63	63	52	42	N. W.	8	.32	....	0	0	0	0	......	......	......	......	...	Clear.
	11 27 p.m.	29.89	67	60	60	50	44	W.	8	.32	....	0	0	0	0	......	......	......	......	...	Clear.
Wednesday, June 18	7 0 a.m.	29.95	67	60	60	50	44	N. W.	4	.08	....	0	0	Cirrus	1-4	N. W.	......	......	......	...	Fair.
	8 2 a.m.	29.96	69	64	64	51	34	N. W.	4	.08	....	0	0	0	0	......	......	......	......	...	Clear.
	12 27 p.m.	29.88	69	68	68	53	30	S.	12	.72	....	0	0	0	0	......	......	......	......	...	Clear.
	2 0 p.m.	29.85	68	67	67	54	37	S.	12	.72	141	0	0	Cirrus	1-4	......	......	......	......	...	Fair.
	5 2 p.m.	29.81	67	63	63	55	56	S.	12	.72	....	0	0	Cirrus	2-4	W.	......	......	......	...	Fair.
	9 0 p.m.	29.76	65	60	60	56	76	S.	4	.08	....	Stratus	2-4	Hazy	...	W.	......	......	......	...	Cloudy.
	11 27 p.m.	29.72	65	61	61	57	76	S.W.	12	.72	....	Stratus	2-4	Cirrus	2-4	......	......	......	......	...	Cloudy.
Thursday, June 19	7 0 a.m.	29.68	67	62	62	57	72	S.W.	4	.08	....	Stratus	1-4	Cirrus	1-4	......	......	......	......	...	Fair.
	8 2 a.m.	29.69	68	65	65	59	68	S.W.	4	.08	....	Stratus	1-4	Cirrus	1-4	S.W.	2.00 a.m.	4.00 a.m.	.02	...	Fair.
	12 27 p.m.	29.69	74	73	73	64	59	N. E.	4	.08	....	Stratus	1-4	Cirrus	1-4	S.W.	......	......	......	...	Fair.
	2 0 p.m.	29.71	75	70	70	63	65	N. E.	4	.08	183	Stratus	1-4	Cirrus	1-4	S.W.	......	......	......	...	Fair.
	5 2 p.m.	29.69	72	65	65	60	73	N. E.	4	.08	....	Stratus	1-4	Cirrus	1-4	S.W.	......	......	......	...	Fair.
	9 0 p.m.	29.70	66	54	54	52	86	E.	8	.32	....	Stratus	1-4	0	0	N. W.	......	......	......	...	Fair.
	11 27 p.m.	29.67	66	54	54	52	86	N. E.	4	.08	....	0	0	0	0	......	......	......	......	...	Clear.
Friday, June 20	7 0 a.m.	29.54	67	61	61	57	77	S.W.	2	.02	....	0	0	Cirro-cum.	2-4	......	......	......	......	...	Fair.
	8 2 a.m.	29.55	67	65	65	60	73	S.W.	4	.08	....	Stratus	1-4	Cumulus	1-4	S.W.	......	......	......	...	Fair.
	12 27 p.m.	29.52	77	85	85	63	23	S. W.	18	1.62	....	0	0	0	0	S.W.	......	......	......	...	Clear.
	2 0 p.m.	29.54	78	87	87	62	17	N. W.	12	.72	140	0	0	0	0	......	......	......	......	...	Clear.
	5 2 p.m.	29.54	78	83	83	62	24	W.	8	.32	....	0	0	Cumulus	1-4	......	......	......	......	...	Fair.
	9 0 p.m.	29.68	73	72	72	55	26	N. W.	12	.72	....	0	0	0	0	N. W.	......	......	......	...	Clear.
	11 27 p.m.	29.72	70	64	64	55	52	N. W.	2	.02	....	0	0	0	0	......	......	......	......	...	Clear.

Meteorological record for the five days ending June 25, 1873.

Saturday, June 21	7 0 a.m.	29.81	65	63	63	51	37	N. W.	4	.08	....	0	0	0	0	......	......	......	......	...	Clear.
	8 2 a.m.	29.82	69	65	65	53	39	S. W.	6	.18	....	0	0	0	0	......	......	......	......	...	Clear.
	12 27 p.m.	29.77	70	68	68	55	38	S. W.	4	.08	....	Stratus	1-4	Cumulus	2-4	W.	......	......	......	...	Cloudy.
	2 0 p.m.	29.76	71	70	70	56	35	N. W.	8	.32	178	Stratus	1-4	Cumulus	2-4	......	......	......	......	...	Cloudy.
	5 2 p.m.	29.83	70	67	67	56	45	N. W.	8	.32	....	0	0	Cumulus	1-4	N. W.	......	......	......	...	Fair.
	9 0 p.m.	29.91	66	59	59	50	48	N. W.	2	.02	....	0	0	0	0	......	......	......	......	...	Clear.
	11 27 p.m.	29.93	63	54	54	49	67	N. W.	2	.02	....	0	0	0	0	......	......	......	......	...	Clear.
Sunday, June 22	7 0 a.m.	30.02	64	58	58	52	64	W.	4	.08	....	0	0	0	0	......	......	......	......	...	Clear.
	8 2 a.m.	30.04	66	62	62	53	51	W.	4	.08	....	0	0	0	0	......	......	......	......	...	Clear.
	12 27 p.m.	30.03	68	63	63	53	47	S.	6	.18	....	Stratus	1-4	Cumulus	2-4	N.	......	......	......	...	Cloudy.
	2 0 p.m.	30.06	68	66	66	54	40	S.	10	.50	104	Stratus	1-4	Cumulus	1-4	......	......	......	......	...	Fair.
	5 2 p.m.	30.08	69	65	65	55	55	S. W.	10	.50	....	0	0	Cum-strat.	1-4	......	......	......	......	...	Fair.
	9 0 p.m.	30.14	65	58	58	54	75	S. W.	6	.18	....	Stratus	1-4	Cirro-cum.	1-4	......	......	......	......	...	Fair.
	11 27 p.m.	30.17	62	55	55	52	80	0	0	0	....	0	0	0	0	......	......	......	......	...	Clear.
Monday, June 23	7 0 a.m.	30.22	67	65	65	56	53	N. W.	2	.02	....	0	0	0	0	......	......	......	......	...	Clear.
	8 2 a.m.	30.24	69	68	68	58	51	0	0	0	....	0	0	0	0	......	......	......	......	...	Clear.
	12 27 p.m.	30.22	69	72	72	57	34	S. E.	6	.18	....	0	0	0	0	......	......	......	......	...	Clear.
	2 0 p.m.	30.24	71	71	71	59	44	S. W.	12	.72	121	0	0	0	0	......	......	......	......	...	Clear.
	5 2 p.m	30 22	70	66	66	57	54	S.	12	.72	....	0	0	0	0	......	......	......	......	...	Clear, f'nt aurora.
	9 0 p.m.	30.22	66	59	59	54	70	S. W.	4	.08	....	Stratus	1-4	0	0	......	......	......	......	...	Fair.
	11 27 p.m.	30.20	66	57	57	53	75	S. W.	8	.32	....	0	0	0	0	......	......	......	......	...	Clear.

Meteorological record for the five days ending June 25, 1873—Continued.

Day and date of observation.	Time of observation.	Barometer.	THERM.		HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer—daily mean.	Remarks.
			Attached.	Exposed.	Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Tuesday, June 24 ..	7 0 a. m.	30. 19	66	60	60	55	71	S. W.	2	.02	....	0	0	0	0	......	....	....	....	°	Clear.
	8 2 a. m.	30. 19	69	65	65	58	63	S.	4	.08	....	0	0	0	0	......	....	....	....	....	Clear.
	12 27 p. m.	30. 19	71	72	72	60	46	S.	8	.32	....	0	0	0	0	......	....	....	....	....	Clear.
	2 0 p. m.	30. 20	72	73	73	60	42	S.	8	.32	139	0	0	0	0	......	....	....	....	....	Clear.
	5 2 p. m.	30. 20	71	72	72	60	45	S.	4	.08	....	0	0	0	0	......	....	....	....	....	Clear, f'nt aurora.
	9 0 p. m.	30. 24	67	59	59	54	70	S. W.	4	.08	....	0	0	0	0	......	....	....	....	....	Clear.
	11 27 p. m.	30. 26	66	56	56	53	80	0	0	0	....	0	0	0	0	......	....	....	....	....	Clear.
Wednesday, June 25	7 0 a. m.	30. 31	66	65	65	58	63	0	0	0	....	0	0	0	0	......	....	....	....	....	Clear.
	8 2 a. m.	30. 33	69	70	70	61	57	0	0	0	....	0	0	0	0	......	....	....	....	....	Clear.
	12 27 p. m.	30. 35	73	82	82	62	26	S.	6	.18	....	0	0	0	0	......	....	....	....	....	Clear.
	2 0 p. m.	30. 36	74	76	76	60	34	S. W.	10	.50	84	0	0	0	0	......	....	....	....	....	Clear.
	5 2 p. m.	30. 36	72	74	74	59	35	S.	10	.50	....	0	0	0	0	......	....	....	....	....	Clear.
	9 0 p. m.	30. 36	68	63	63	54	51	S. W.	10	.50	....	0	0	0	0	......	....	....	....	....	Clear.
	11 27 p. m.	30. 34	68	60	60	53	59	S. W.	7	.24	....	0	0	0	0	......	....	....	....	....	Clear.

Meteorological record for the five days ending June 30, 1873.

Day and date of observation.	Time of observation.	Barometer.	THERM.		HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer—daily mean.	Remarks.
			Attached.	Exposed.	Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Thursday, June 26 .	7 0 a. m.	30. 32	68	65	65	52	35	W.	2	.02	....	6	0	Cirrus	1-4	W.	....	....	....	....	Fair.
	8 2 a. m.	30. 32	71	72	72	60	46	W.	4	.08	....	0	0	0	0	......	....	....	....	....	Clear.
	12 27 p. m.	30. 27	77	83	83	68	43	S. E.	2	.02	....	0	0	Cirrus	1-4	......	....	....	....	....	Fair.
	2 0 p. m.	30. 25	78	82	82	62	26	S.	8	.32	151	0	0	0	0	......	....	....	....	....	Clear.
	5 2 p. m.	30. 19	76	78	78	64	42	S.	8	.32	....	0	0	Cirrus	1-4	......	....	....	....	....	Fair.
	9 0 p. m.	30. 16	73	71	71	61	53	S. W.	6	.18	....	0	0	0	0	......	....	....	....	....	Clear.
	11 27 p. m.	30. 14	72	69	69	60	56	S. W.	8	.32	....	0	0	0	0	......	....	....	....	....	Clear, f'nt aurora.
Friday, June 27....	7 0 a. m.	30. 08	72	70	70	58	44	W.	4	.08	...	0	0	Cirrus	1-4	......	....	....	....	....	Fair.
	8 2 a. m.	30. 08	74	73	73	61	46	S. W.	2	.02	....	0	0	Cirrus ...	1-4	......	....	....	....	....	Fair.
	12 27 p. m.	29. 99	78	81	81	66	41	S.	8	.32	....	0	0	Cirrus	1-4	......	....	....	....	....	Fair.
	2 0 p. m.	29. 96	76	78	78	64	42	S.	12	.72	157	0	0	0	0	......	....	....	....	....	Clear.
	5 2 p. m.	29. 88	73	75	75	63	47	S.	8	.32	....	0	0	0	0	......	....	....	....	....	Clear.
	9 0 p. m.	29. 82	72	68	68	60	60	S. W.	8	.72	....	0	0	0	0	......	....	....	....	....	Clear.
	11 27 p. m.	29. 78	71	67	67	61	69	S. W.	8	.32	....	Stratus ...	1-4	0	0	......	....	....	....	....	Fair.
Saturday, June 28..	7 0 a. m.	29. 72	74	72	72	66	71	S. W.	4	.08	....	Stratus ...	1-4	Cirro-cum.	1-4	......	....	....	....	....	Cloudy.
	8 2 a. m.	29. 71	75	77	77	69	65	S. W.	4	.08	....	Stratus ...	1-4	Cirrus	1-4	W.	....	....	....	....	Fair.
	12 27 p. m.	29. 72	80	84	84	71	50	N.	4	.08	....	Stratus ...	2-4	Cirrus	1-4	S. W.	....	....	....	....	Cloudy.
	2 0 p. m.	29. 72	81	84	84	71	50	N. W.	2	.02	214	Stratus ...	1-4	Cirro-cum.	2-4	S. W.	....	....	....	....	Cloudy.

	9 0 p. m.	29. 79	75	66	66	64	89	N. E.	4	.08	....	Stratus ...	1-4	Cumulus..	1-4	N. W.	....	....	....	....	Fair.
	11 27 p. m.	29. 79	77	65	65	63. 5	91	0	0	0	....	0	0	0	0	......	6.00 p. m.	6.10 p. m.	.01	...	Clear
Sunday, June 29 ...	7 0 a. m.	29. 82	73	71	71	66	75	0	0	0	....	Fog.......	1-4	0	0	......	....	....	....	....	Fair.
	8 2 a. m.	29. 84	75	74	74	67	68	0	0	0	....	0	0	0	0	......	....	....	....	....	Clear.
	12 27 p. m.	29. 84	74	70	70	64	70	E.	4	.08	...	0	0	0	0	......	....	....	....	....	Clear.
	2 0 p. m.	29. 85	75	68	68	63	74	S. E.	8	.32	67	Hazy	....	Hazy	....	......	....	....	....	....	Fair.
	5 2 p. m.	29. 84	75	73	73	68	76	S.	8	.32	....	0	0	0	0	......	....	....	....	....	Clear.
	9 0 p. m.	29. 87	72	62	62	61	88	S. E.	2	.02	....	Stratus ...	1-4	Cirrus	1-4	......	....	....	....	....	Fair.
	11 27 p. m.	29. 87	71	63	63	62	94	0	0	0	....	Stratus ...	1-4	0	0	......	....	....	....	....	Fair, faint aurora.
Monday, June 30 ...	7 0 a. m.	29. 91	70	64	64	62	88	S. W.	12	.72	....	Stratus ...	2-4	Cirrus	2-4	......	....	....	....	....	Cloudy.
	8 2 a. m.	29. 93	70	65	65	63	89	S. W.	16	1. 28	....	Stratus ...	2-4	Cirrus	2-4	......	....	....	....	....	Cloudy.
	12 27 p. m.	29. 95	72	68	68	65	84	S.	16	1. 28	....	Stratus ...	1-4	Cirrus	1-4	N. W.	....	....	....	....	Fair.
	2 0 p. m.	29. 96	72	73	73	67	71	S.	10	.50	179	Stratus ...	1-4	0	0	......	....	....	....	....	Fair.
	5 2 p. m.	29. 93	73	69	69	66	84	S.	16	1. 28	....	Stratus ...	1-4	0	0	......	....	....	....	...	Fair.
	9 0 p. m.	29. 96	72	66	66	65	94	S. W.	8	.32	....	Stratus ...	1-4	0	0	......	....	....	....	....	Fair.
	11 27 p. m.	29. 98	71	65	65	64	94	S. W.	12	.72	....	Stratus ...	2-4	Cirrus	2-4	......	....	....	....	....	Cloudy.

PAPER 16.

REPORT OF METEOROLOGICAL OBSERVATIONS MADE AT MOUNT MITCHELL DURING THE MONTHS OF MAY, JUNE, JULY, AUGUST, AND PART OF SEPTEMBER, 1873.

WAR DEPARTMENT,
OFFICE OF THE CHIEF SIGNAL-OFFICER,
DIVISION OF TELEGRAMS AND REPORTS FOR THE
BENEFIT OF COMMERCE AND AGRICULTURE,
Washington, D. C., September 23, 1873.

SIR: I have the honor to submit the following report of the special observations made on the summit of Mount Mitchell from May 11, 1873, to August 6, 1873, and both summit and base from the latter date to September 6, 1873. The barometers at both stations were carefully compared before leaving the office and also upon their return. Papers A and B, herewith, give in detail the instructions to the observers. Papers C, D, E, and F, are the journals kept at the summit, and Paper G that at the base-station. Papers H and I give the observations made at both stations, and, for purposes of comparison, those made at Knoxville, Tenn., during the same period. Knoxville was selected from the fact that its elevation is supposed to be accurately determined. The barometrical observations have been corrected for temperature and instrumental error only. The elevation of the barometer at summit above sea-level is assumed to be 6,691 feet; at base, 2,560 feet; at Knoxville, 993 feet.

Very respectfully, &c.,

H. W. HOWGATE,
Second Lieut. and Bvt. Capt. U. S. A., A. S. O. and Assistant.

CHIEF SIGNAL-OFFICER, U. S. A.,
Washington, D. C.

A.

WAR DEPARTMENT,
OFFICE OF THE CHIEF SIGNAL-OFFICER,
DIVISION OF TELEGRAMS AND REPORTS FOR THE
BENEFIT OF COMMERCE AND AGRICULTURE,
Washington, D. C., April 26, 1873.

SERGEANT: Upon arriving at the summit of Mount Mitchell, in compliance with Special Orders No. 55, of this date, you will make suitable preparations for beginning a series of observations at 6 o'clock a. m. of May 1, and continuing them, without interruption, until midnight of May 31, at the following hours daily: 1 a. m., 2 a. m., 3 a. m., 4 a. m., 5 a. m., 6 a. m., 7.14 a. m., 8 a. m., 9 a. m., 10 a. m., 11 a. m., 12 m., 1 p. m., 2 p. m., 3 p. m., 4.14 p. m., 5 p. m., 6 p. m., 7 p. m., 8 p. m., 9 p. m., 10.39 p. m., and 12 midnight.

In making these observations local time will be used, which is twenty-one (21) minutes slower than Washington time. The observations will be the same in all respects as those made at regular stations, and will be recorded in the usual manner, upon Forms 4, omitting only the reduction of the barometric observations for elevation. The records of the party will be kept, under your supervision, by Sergeant Dietz, and will be brought by you in person to this office when ordered in, unless otherwise instructed in the mean time as to their disposition. The several instruments will be properly exposed, using the portable shelter as far as practicable, and read in the following order:

1. Attached thermometer.
2. Barometer.
3. Thermometer.
4. Hygrometer.
5. Wind-vane.
6. Anemometer.
7. Rain-gauge.

All observations will be entered as made in the "Original Record" book. In addition to a full supply of necessary forms, books of record, and articles of stationery, the following instruments will be furnished you:

2 barometers, mercurial.
2 standard thermometers.
2 hygrometers.
2 anemometers.

2 wind-vanes, small.
1 rain-gauge.
1 self-registering anemometer attachment, with battery and insulated wire.

Especial pains will be taken to secure a continuous record from the self-registering apparatus, and to preserve the record in proper condition for future use. All instruments and supplies will be taken charge of by you at this office. The former will be carried by yourself and the members of your party, and the latter must accompany you so as to reach the railroad-station nearest the mountain at the same time with the party. Upon arriving at Old Fort, the present terminus of the railroad, you will at once secure the necessary means of transportation for your party and supplies to the summit of the mountain, about thirteen miles distant. You will also ascertain from Col. D. C. Salsbury whether provisions in sufficient quantity can be obtained at or near the base of the mountain, and if not, will purchase and take with you enough to last the party five weeks. Water in abundance will be found within a few feet of the summit, and an old log-cabin on the summit can be used for shelter for the whole party. You have been selected to lead this party on account of your experience as an observer and thorough knowledge of station-duties, and it is expected that you will use your best efforts to make the expedition a successful one by the accuracy of the observations and the neatness of the records.

The utmost expedition must necessarily be used in order to reach the ground and get ready for work at the date and time ordered, and it is possible that you may be compelled to leave one man behind at the railroad-station to bring up the supplies, while the remainder of the party pushes forward to the mountain with the instruments to begin the observations.

In expending such public money as may be intrusted you for public expenses, the utmost economy must be exercised, and a carefully itemized account kept of all such expenditures.

Very respectfully,

H. W. HOWGATE,
Second Lieut. and Bvt. Capt. U. S. A., A. S. O. and Asst.

Sergt. WILLIAM E. SMITH,
Washington, D. C.

B.

WAR DEPARTMENT,
OFFICE OF THE CHIEF SIGNAL-OFFICER,
DIVISION OF TELEGRAMS AND REPORTS FOR THE
BENEFIT OF COMMERCE AND AGRICULTURE,
Washington, D. C., *July* 26, 1873.

SERGEANT: On arriving at Mount Mitchell you will put yourself at once in communication with Sergeant Smith, in charge of the summit station, and, after a careful comparison of your barometers and time-pieces with those in use at that station, will note the difference in your journal, and then proceed to some point at or near the base of the mountain, from which the summit can be distinctly seen, and there establish a station, at which you will make observations daily at the following-named hours, (local time,) until further orders, viz: 1 a. m., 2 a. m., 3 a. m., 4 a. m., 5 a. m., 6 a. m., 7.14 a. m., 8 a. m., 9 a. m., 10 a. m., 11 a. m., 12 noon; 1 p. m., 2 p. m., 3 p. m., 4.14 p. m., 5 p. m., 6 p. m., 7 p. m., 8 p. m., 9 p. m., 10 p. m., 10.39 p. m., 12 midnight. To insure similarity in time you will twice each day (8 a. m. and 4 p. m.) compare your time with that at the summit, by signals, using for this purpose the flags furnished, and of which one set will be turned over to Sergeant Smith at the summit station. The time-keeper at the summit will be used as the standard, and yours made to correspond with it at all times. Your station at the base must be located at or as near the general level of the surrounding country as possible, and its elevation above the railroad-track ascertained, if practicable. It is not necessary that you should have your station immediately at the base of the mountain, if there is any other point from which the summit can be better seen and communicated with.

Very respectfully,

H. W. HOWGATE,
Second Lieut. and Bvt. Capt. U. S A., A. S. O. and Asst.

Sergt. D. H. SACKETT,
Washington, D. C.

C.

Abstract of daily journal kept on Mount Mitchell, North Carolina, during the month of Ma 1873.

May 1, 1873.—Arrived at 1 a. m. at the Mountain House, which is about 4,600 fee above the level of the sea, under heavy rain, with brisk and high southeast to eas winds. The guides refusing to proceed any farther under such weather, made a dela necessary. Rain continued without interruption until midnight, and wind increase to very high.

May 2.—Rainy in the early morning, with very dense fog and brisk southeast win until 10 a. m. Wind veering to north and rain ceased, with falling temperature Started for the peak at 1 p. m., sending ahead the guides to clear the path with axes Arrived at Mitchell's Peak at 6.30 p. m. Toward 7 p. m. snow commenced to fal which soon changed to sleet, with increasing wind blowing from southeast, and wit very low temperature, coating the trees and rocks with a thick layer of ice.

May 3.—Commenced to build a temporary instrument-shelter, and finished it by 1 m., and began to make observations. Wind blowing brisk from the west, with lov temperature and light snow. Wind veering to north at 2.25 p. m., and at 4.40 p. m. t northeast, sleeting and hailing until 6 30 p. m. Wind backing to west and northwest with slightly increased temperature, but still being below the freezing-point. Dens fog until midnight.

May 4.—Still dense fog and fresh and brisk northwest wind, which calmed down to a absolute calm at 9 a. m. Light north and west until noon, when the fog disappeare and disclosed cirrus and cumulus clouds. A second calm at 4.14 p. m., wind veering t southeast and east. Fog throughout the remainder of the day.

May 5.—Very foggy and damp weather, with fresh east wind. The fog above thi station disappeared at 7.28 a. m., disclosing cirrus and cumulus clouds, but the whol region below this station was still hidden from view by fog until 9 a. m., when a dense fo enveloped the peak; wind in the mean time veering to southwest, being light, an calming entirely. The fog nearly disappeared at 5.32, with wind backing to south an southeast. Sky covered with cumulus clouds, and after their disappearance, at 9.03 the weather was fair for a few hours, with only a light fog in the valley. A halo wa visible from 9 p. m. to midnight. At midnight the weather was foggy again.

May 6.—Foggy in the earlier part of the day. Partly fair and clear at 3 a. m., an continued fair until 6 a. m., with fresh east wind. Dense fog until 9 a. m., when light rain commenced and continued until noon, and afterward heavy rain with slee and hail. Temperature falling and wind increasing to brisk and high. The roof o the instrument-shelter was blown down, breaking the wet-bulb of the hygrometer, an making an immediate removal of all instruments to a place of safety absolutely necessary, which place (an overhanging rock) made a reading of them impossible. Th storm increased in violence, and heavy rain, mingled with snow and sleet, fell i streams, compelling the whole party to discontinue the work and descend into the valley, there being no place nearer which could afford shelter.

May 7.—Owing to the continuance of the storm an attempt to proceed to the mountain and resume work was impossible.

May 8.—The storm having broken, started up the mountain in the morning, arrivin at 3 p. m.; found the rain-gauge overflowing, which indicated a fall of over 4 inche during 48 hours.

May 9.—Fair weather, but having no place to expose the instruments made no observations.

May 10.—A log-cabin being so far finished to put the instruments in their place by 6 p. m., commenced work at 7 a. m.

The instruments are placed on the north side of the building as follows:

Elevation of the cistern of the barometer, (No. 185,) 3 feet 10 inches above th ground.

Elevation of the bulb of the thermometer, (No. 145,) 4 feet 5 inches above the ground

Elevation of the bulb of the hygrometer, (No. 181,) 4 feet 5 inches above the ground

Elevation of the anemometer, (No. 42,) 13 feet 4 inches above the ground.

Elevation of the anemoscope, 13 feet above the ground.

Elevation of the rain-gauge, 2 feet 6 inches above the ground.

The ground being a solid bed of rocks, made it impossible to have the gauge at th same level with the ground. A thunder-storm, with heavy rain and hail, passed ove this mountain at 6.30 p. m., advancing from southwest to northeast. Light rain wit brisk west wind during the remainder of the day. Rain-fall ceased at 11.18 p. m. total amount .61 inch. Dense fog at midnight.

May 11.—A dense fog, with fresh and brisk west and northwest wind, prevailed unti a few minutes after 10 a. m., when the weather became partly cloudy and fair, bu with still fresh and brisk northwest wind. A halo from 7.30 p. m. until 11.18 p. m Temperature declining slowly but steadily.

May 12.—Cloudy in the early morning, with light fog in the valley; wind continues brisk from the northwest. Dense fog from 4 a. m. until shortly after 6 a. m.; heavy frost. Fair weather and increasing temperature until 6 p. m. A distant and apparently very heavy thunder-storm west of this station, moving from northwest to southeast at 7.08. A heavy thunder-storm passed over this place, with heavy rain, from west to east, at 7.40, wind backing to west, and increasing to high. Fair weather, with light fog in the valley, from 8.32 p. m. until 10 p. m., when a light rain commenced to fall; clearing at midnight. Total amount of rain-fall during the day .45 inch. Halo from 8.45 until 10.16 p. m.

May 13.—Fair weather, with high and very high north and northwest winds, until noon; sky covered partly with cirrus clouds, the wind blowing steadily and variable from west and southwest, moderated until 8 p. m. to fresh with continuous fair weather. From shortly after 8 p. m. the force of the wind increased to high and brisk and backing to northwest. Weather cloudy.

May 14.—Partly cloudy and foggy in the morning, with brisk west wind. Light rain of but short duration at intervals during the entire day. Weather generally foggy and cloudy, and for a few hours only before midnight, fair. Wind very variable, backing to southwest, south, and southeast, and as far as due east. Total amount of rain-fall. .11 inch.

May 15.—Foggy weather with fresh southeast wind blowing steadily until 7.28 a. m., when it backed to east. Rain commenced to fall at 6.10 a. m. and continued until 4.45 p. m. The wind backed then to northwest and west and veering to north, being light and fresh but very variable. Dense fog prevailed throughout the remainder of the day. Total amount of rain-fall, .47 inch.

May 16.—Very foggy weather, with fresh variable north and northwest wind, until 7.33 a. m.; wind veering to northeast, backing again to northwest and west, and moderating to gentle during the forenoon. Generally fair weather, with light fog in the valley during the forenoon. At 9 a. m. well-defined cumulus clouds were visible far below this station. Cloudy weather with variable westerly and northerly winds during the afternoon and earlier part of the night. Fair weather, and for a short time perfectly clear weather, (at 10.39 p. m.,) until midnight.

May 17.—Fair weather, with brisk but variable northwest and west winds, in the early morning. Wind moderated to gentle and fresh during the day, and after backing in succession to southwest, south, and southeast, continued so until midnight. Fair weather with rising temperature continued until after 8 p. m. The lower atmosphere during the whole time very hazy. Cloudy until nearly midnight; fair at midnight.

May 18.—Foggy and cloudy weather, with fresh and brisk steady southeast wind, until 6.27 a. m., when the wind veered to the west and moderating in force. Cloudy weather during the forenoon and afternoon. Toward night the wind backed to south and southwest and increased to brisk. A light rain fell for a short time at 6.15 p. m. Foggy during the remainder of the day. Total amount of rain-fall, .01 inch.

May 19.—Foggy and cloudy weather, with brisk and high variable southwest wind, in the morning. The wind moderated in violence after veering to west, toward noon. Cloudy during the forenoon and afternoon, with wind backing to southwest and increasing to brisk. A distant thunder-storm passed east of this station at 1.15 p. m., moving from the southwest to the northeast. A light rain commenced to fall at 1.34 p. m., which was for 12 minutes accompanied by hail of considerable size, and continued until 2.32 p. m. Cloudy and threatening during the evening. Fair at midnight. Brilliant heat-lightning during the last three hours of the day, at first west and afterward north and northeast of this station, illuminating sometimes the entire heavens. Total amount of rain-fall, .30 inch.

May 20.—Fair weather, with high southwest wind in the earlier part of the day. Heat-lightning continued on the southwest horizon. Foggy, with fresh west winds, until 8.40 a. m. Fair and cloudy, with gentle but steady northwest wind, until noon. A phenomenon of peculiar nature occurred here during the latter part of the forenoon. The range of mountains of which Mount Mitchell is a part, divided the lower part of the atmosphere in two distinct halves. On the western side of this range the atmosphere was filled with haze, while the eastern side was foggy, and this fog was at times of considerable density. The line where fog and haze met was remarkably well defined and seemed to be unchangeable until shortly after 1 p. m., when a pretty dense fog filled the entire atmosphere. Foggy weather and light rain during the afternoon, with variable gentle and fresh easterly winds. A thunder-storm with heavy rain passed over this station at 4.20 p. m., moving from south to north. Cloudy and rainy weather, with brisk southeast wind, until midnight. Total amount of rain-fall, .56 inch.

May 21.—Foggy weather in the earlier morning, with brisk but variable southeast to east winds. Light rain commenced at 2.18 a. m., and ended at 6.45 a. m. Foggy until 9.52 a. m., when again it commenced to rain, ending at 10.24 a. m. Heavy rain from 12.20 p. m. until 1.25 p. m. Wind veering to southwest, and increasing to brisk, after being fresh and gentle, at 4.30 p. m. Dense fog filled the atmosphere, and a light, drizzling rain fell at 3.10 p. m., and continued until 9.28 p. m. Temperature rather low for the season, and varying but little during the entire day. Cloudy and foggy until midnight. Total amount of rain-fall, .85 inch.

May 22.—Light rain at 12.23 a. m. until 1.45 a. m., with brisk variable southwest and west winds. Foggy weather until 5.40 a. m., when it commenced to rain, and continued until 7.01 a. m. A distant thunder-storm passed south of this station at 4 a. m., wind veering to west and northwest during the forenoon, moderating to gentle and fresh, with cloudy weather, which became fair during the afternoon. At 6.50 p. m. the wind veered to northeast, and weather continued fair. Toward midnight the weather was clear. Temperature rising slowly but steadily. Total amount of rain-fall, .21 inch.

May 23.—Fair weather with variable fresh and brisk westerly winds. From 5 a. m. until 8 a. m. foggy. Light rain commenced at 8.32 a. m., and ended 8.50 a. m. Fair weather with fresh and brisk north and northwest wind until midnight. During the latter part of the forenoon well-defined cumulus clouds were at a considerable distance below this station. Brilliant heat-lightning during the evening continued until midnight, first on the eastern and southern horizon, afterward on the southern and western horizon, and, finally, on the western horizon only. Temperature rising slowly throughout the day. Total amount of rain-fall, .05 inch.

May 24.—Foggy at the beginning of the day, with brisk westerly winds. Cloudy and fair weather with fresh west and northwest winds until 3.45 p. m., from which time the weather continued fair until midnight. The wind, after veering to north and northeast, and increasing to very brisk, and moderating only a few hours before midnight, very variable during the entire day. Heat-lightning of short duration at 9 p. m. on western horizon.

May 25.—Fair weather, with brisk and fresh northeast and east winds, until 10.40 a. m., when the whole sky was covered with heavy cumulus clouds. A thunder-storm with heavy rain and hail, the size of which was fully equal and for a few minutes exceeded that of the largest kind of buckshot during the time of its fall, (20 minutes,) passed over this station at 11.40 a. m., moving from southeast toward northwest. During its passage the wind had every possible direction, veering and backing to and from every point in the compass in rapid succession until at 12.40 p. m. the wind veered to east again, by which time the storm had passed. Cloudy weather with very variable but fresh and light northeast and southeast winds during the afternoon. Distant thunder-storms in southwest and east, the former moving from northwest to southeast, the latter from northeast to southwest at 4 p. m., and at 5 p. m. thunder-storms in southwest and west direction of this station. Fair weather from 9.10 p. m. until 11.25 p. m., when a dense fog filled the atmosphere. Temperature declining. Total amount of rain-fall, .47 inch.

May 26.—Foggy weather, with steady, fresh and brisk southeast wind in the early morning, until 7.25 a. m., when a heavy rain with fresh southwest wind commenced to fall, ending at 9.10 a. m. Cloudy and foggy weather with wind backing and veering from southwest to southeast until noon, when in short succession two thunder-storms passed this station, both moving from southwest to northeast. Cloudy and foggy weather until the close of the day with fresh and brisk southerly and easterly winds. During the afternoon a distant thunder-storm passed north, and shortly afterwards another southwest of this station, both moving in a direction from southeast toward northwest. Between the hours of 3 p. m. and 4.30 p. m., heavy and well-defined cumulus clouds were in the valleys east and southwest of this station, nearly 500 feet below the summit of Mount Mitchell. Temperature slightly rising. Total amount of rain-fall, .42 inch.

May 27.—Foggy weather, with variable and brisk southwest wind, until 4.30 a. m. Fair, with brisk westerly winds, which toward noon moderated to gentle, during the entire forenoon. During this time heavy cumulus clouds were filling the valleys below this station, varying from 200 to 500 feet below. A heavy thunder-storm advancing from the southwest to the northeast passed with heavy rain and very large hail (the latter continued to fall for five minutes) over this station. The wind's force increased after the passage of this storm from gentle to high, moderating only for a brief period at midnight to brisk. Weather cloudy in the evening and fair until midnight. Temperature slightly falling. Total amount of rain-fall, .52 inch.

May 28.—Clear weather, with very brisk southwest wind, until a few minutes after 2 a. m., when the sky became overcast with cumulus clouds. Light rain soon began to fall from 3.30 a. m. until 4.45 a. m. The wind, after veering to west, and shortly afterward to northwest, moderated to fresh. Fair weather until noon. Small cumulus clouds in the valleys below this station during the greater part of the morning and forenoon. Cloudy weather, which, for only two short hours, from 8.16 p. m. to 10 p. m., was cleared to fair, prevailed until midnight. Westerly and northwesterly winds, fresh and gentle, steady in the fore part of the afternoon, and variable until midnight. A light rain-shower passed over this station from 5.40 p. m. until 5.55 p. m; temperature slightly increasing. Total amount of rain-fall, .04 inch.

May 29.—Cloudy weather with fresh northwest wind at the beginning of the day.

At 1.55 a. m. light rain commenced to fall, and continued until 10.15 a. m. After the rain had changed from light to heavy, by 8 a. m., the wind, very variable, backed from northwest to southwest, veered to southeast, and backed again to west during the forenoon, and increased at 9 a. m. to brisk, but moderated at noon to fresh; cloudy weather, with very variable westerly winds, during the afternoon and evening. From 2.55 until 3.10 a light rain-fall. Heavy cumulus clouds in the valleys east and south of this station, whose upper limits sometimes on a level with this station, sometimes a trifle higher, and sometimes as much as 200 feet below this station. Foggy weather, with fresh but steady southwest wind, until shortly before midnight, when the fog disappeared and the weather became cloudy; temperature slightly falling. Total amount of rain-fall, 1.21 inch.

May 30.—Cloudy and foggy weather from beginning of the day until noon, with fresh and brisk westerly winds. A light rain fell from 2.25 a. m. until 2.40 a. m. Foggy and cloudy, with at first variable northerly winds, which, by 5 p. m., became a steady northeast wind until midnight. Heavy thunder-storms passed at noon north and west of this station, and in the earlier part of the afternoon northeast of this station. Heavy and afterward light rain from 3.20 p. m. until 5.20 p. m. At midnight the weather was fair; temperature falling. Total amount of rain-fall, .36 inch.

May 31.—Foggy weather, with fresh and brisk northeast wind, which, until shortly after 7 p. m., was steady and variable until midnight. Light rain from 6.40 a. m until 8.45 a. m. The dense fog which prevailed on this station throughout the entire day disappeared for only a few minutes at 1 p. m. Temperature very low for the season. Total amount of rain-fall, .17 inch.

MONTHLY SUMMARY.

Mean temperature from May 11 to May 31	49°.3
Rain-fall from May 10, 6 p. m., to May 31	6.81 in.
Number of rainy days from May 10, 6 p. m., to May 31	17
Prevailing winds from May 10, 6 p. m., to May 31	N. and W.
Number of miles traveled from May 10, 6 p. m., to May 31	6,508

The cabin is built immediately on the peak, which is a flat, rugged place, about 80 feet long and 40 wide. It stands exactly north and south; is 16 by 14 feet; has a window in each end, and the door is on the west side, the chimney on the east. The thermometer and hygrometer are in a shelter built over the north window. The barometer hangs on the east side of the window, next to which stands the self-registering attachment to the anemometer. The anemometer is placed on the north end of the roof, and a few feet from it is placed the vane. The rain-gauge is placed on the ground to the southwest of the cabin some 40 feet, and has a full exposure. Instruments all in good condition.

Respectfully submitted.

W. E. SMITH,
Observer-Sergeant Signal-Service, U. S. A.

D.

Journal abstract from June 1 *to June* 30, 1873.

MOUNT MITCHELL, NORTH CAROLINA.

June 1, 1873.—Foggy weather, with variable brisk east wind at the beginning of the day. Fair weather, with steady northeast wind, which, until 6 p. m., was light and gentle, and afterward became brisk, until midnight. Cloudy, foggy, and fair weather until midnight. Temperature rising. Between 6 p. m. and 8 p. m. the thermometer fell considerably, but rose slowly until midnight.

June 2.—Fair and clear weather, with variable brisk east wind at the beginning of the day. From 4 a. m. the wind moderated to fresh, and continued so until shortly after 7 p. m., with partly fair and foggy weather and increasing temperature. Toward night the fog became more dense, and light only for a brief time, at 10 p. m, with wind increasing to brisk and veering to northeast, but backing toward midnight to southeast, by which time its force moderated to fresh. Light rain commenced to fall from 11.15 p. m., lasting until midnight. Total amount of rain-fall during the day, .04 inch.

June 3.—Light rain continued until 1.43 a. m. Foggy weather, with very variable easterly winds, which, until 3 p. m., were fresh, increasing to brisk until after 9 p. m., when they moderated to fresh again, throughout the day. Heavy rain commenced at 9.15 p. m., becoming light at 10.20 p. m., but heavy again until midnight. The wind became, by 7 p. m., a steady east one, and continued so until the close of the day Temperature falling. Total amount of rain-fall during the day, .53 inch.

June 4.—Rainy weather, with variable fresh and brisk south and southwest winds continued until 5.10 a. m., the rain being partly heavy, partly light. Foggy and cloud weather, with fresh southwest wind, which during this time was steady until noon interrupted only for 25 minutes by light rain at 11.20 a. m. Foggy and cloudy weather with variable fresh southerly and westerly winds, until 3.10 p. m., when a light rai fell until 4.30 p. m., during the afternoon. Fair weather from 6.40 p. m. to 8.25 p. m with variable brisk westerly winds. Foggy until midnight. Heat-lightning on wes and northwest horizon at 8 p. m. Temperature slightly increasing. Total amount o rain-fall during the day .60 inch.

June 5.—A very dense fog, with very brisk westerly winds and interrupted only onc by a light rain-shower at 2.15 a. m., prevailed on this station until noon. Foggy an rainy weather until midnight. A very heavy rain, the heaviest experienced so far a this place, fell from 6.08 p. m. until 7.05 p. m., the depth of which amounted to .4 inch. Wind continued variable and brisk, westerly; temperature falling. Tota amount of rain-fall during the day, .83 inch.

June 6.—Rainy weather continued, with brisk and fresh variable northwest and wes winds, until 12.00 p. m.; foggy weather, with variable northwest and north wind, unti midnight, by which time the wind's force had greatly moderated. A light rain-showe in the afternoon from 4.22 p. m. until 4.48 p. m.; temperature still falling. Tota amount of rain-fall during the day, .48 inch.

June 7.—Fair weather, with fresh north wind, in the early morning. The wind bein variable backed shortly after 2 a. m. to northwest. As soon as the wind backed, th atmosphere was filled with fog, at first somewhat pretty dense, afterward light, an lasted so until 5.20 a. m. when the weather became fair. Shortly before noon and fo three hours in the afternoon the weather was cloudy, but continued fair from 3.10 p m. until midnight. The variable north and northwest wind moderated in force greatly being gentle from 10 p. m. and backing to south and southwest by midnight. Temperature slowly rising.

June 8.—Fair weather, with gentle but variable southeast wind, until 3.30 a. m., whe the weather became clear and remained so for a little more than two hours. Generally fair until 9.20 a. m., with gentle and light southeast and east winds. By 9.20 a m. the wind veered to south and toward noon to southwest and the sky became covered with heavy cumulus clouds moving from the west. The weather continued cloudy until 2.45. p. m., and then became foggy, remaining so until midnight. At 2.45 p. m the wind backed suddenly to the east, increasing at the same time from fresh to brisk The temperature which, until 2.45 p. m. was steadily but slowly increasing, fell rathe rapidly until the close of the day. Light rain-shower from 8.10 p. m. to 8.49 p. m. A drizzling rain commenced at 11.25 p. m. and lasted until midnight. Total amount o rain-fall during the day, .05 inch.

June 9.—The light, drizzling rain continued until 1.41 a. m., the wind being variable, brisk east wind, moderated at 4.30 a. m. to fresh, and veered to south. Thermometer continued to fall until after 4 a. m. Weather foggy until after 5 p. m. The wind after veering to southwest by 7 a. m. and to west at 9.45 a. m., became light. At 4 p. m. the wind veered to northwest and a calm ensued from a little before 7 p. m. unti shortly after 8 p. m. Afterward a gentle northwest wind sprung up, backing shortl to west and southwest, and increasing to fresh by midnight. Cloudy weather from 5.25 p. m. until 11.40 p. m., when a pretty dense fog enveloped this peak. The temperature, which had been slowly rising during the day, fell again toward midnight. Tota amount of rain-fall during the day .09 inch.

June 10.—Cloudy weather, with light and gentle variable and steady southwest win and very slowly rising temperature, until noon. Light rain-showers from 8.05 a. m until 8.40 a. m. and from 10.50 a. m. until 10.55 a. m. Cloudy weather, interrupted fo a short time by a dense fog at 3 p. m. and fair weather from 4.40 p. m., until 7.10 p. m. prevailed throughout the remainder of the day. Light rain from 12.25 p. m. until 12.4 p. m. The wind increased shortly after noon to fresh and brisk, and after 9 p. m. to high and remained so; a variable southwest wind until midnight. The temperature, whic until 2 p. m. was rising, began to fall rapidly until 8 p. m., continuing steady, but lo for the season, until the close of the day. Total amount of rain-fall during the day .08 inch.

June 11.—The high variable southwest wind of the previous day continued unti after 1 a. m., when it moderated to brisk and veered to west by 4.20 a. m. Cloud weather, until after 3 a. m., interrupted, from 1.25 a. m. to 1.38 a. m., by light rain. Fogg from after 3 a.m. until 4.07 a. m., when a light rain commenced to fall, ending at 8.4 a.m. Foggy weather afterward, until 11.35 a. m., when again a light rain commenced by this time the brisk west wind had backed to southwest, and moderated to fresh, remaining so until 6 p. m., but veering to west at 2.40 p. m., at the exact time the rai ceased, and, toward 5 p. m., to northwest, and backing shortly before 6 p. m. to southwest. Foggy weather, with brisk southwest and west wind until 7.35 p. m., when ght drizzling rain commenced to fall, not ceasing at midnight. At midnight the wind ad veered to west. and moderated to fresh. Temperature low for the season. Total mount of rain-fall during the day, .61 inch.

June 12.—The drizzling rain of the previous day ended at 12.40 a. m. The weather hen became foggy, and continued so until noon, with the exception of a light rain rom 4.05 a. m. until 4.25 a. m., and a very light fog at 11 a. m., disclosing the sky covred with cumulus clouds. The wind continued to be a very variable westerly wind, nostly fresh, until 9.45 a. m., when it veered to northeast, and, after blowing from this oint for about two hours, veered suddenly to the south, but backed by 1 p. m. again to ortheast; at 4.20 p. m. the wind veered to east, and continued a fresh variable east wind ntil midnight. During the afternoon the weather was at first cloudy, afterward oggy; and, by 4.18 p. m., rainy, and continued so until midnight. Temperature low nd slightly falling toward night. Total amount of rain-fall during the day, .55 inch.

June 13.—The weather was, after the drizzling rain ended at 12.10 a. m., foggy until .25 a. m., when the somewhat dense fog disappeared, leaving a very light fog only, and isclosing the sky partly covered with cumulus clouds. By 7 a. m. the fog became lenser, and, hiding everything from view, remained so until the close of the day, dislosing only once, at 6 p. m., during the entire time a great part of the sky. Toward nidnight the fog was very dense. The wind, during the entire day, was very variable. The fresh northeast wind, after moderating in force, backed, at 4.15 a. m., to west, and, noderating to light, veered, at 7 a. m., again to northeast, but backed, by 8 a. m., to orth; by 11 a. m., to northwest, and, before noon, to west, after which time it veered o northwest, and continued, until 5.40 p. m., when, after increasing to gentle, the wind acked to southwest, and, increasing still more to fresh, backed, shortly after 9 p. m., to ast, remaining so until midnight. Temperature slightly increasing.

June 14.—Foggy weather, with fresh southeast wind, from the beginning of the day ntil 1.35 a. m., when the wind veered to southwest and a light rain began to fall, ending at 2.40 a. m., from which time the weather continued foggy until 11.15 a. m. The og toward noon became very dense. The variable southwest wind increasing in the arly morning to brisk, but moderating by 7 a. m. to fresh, backed soon to south, and hortly afterward to southeast. At 11.15 a. m. a heavy rain commenced and continued, artly heavy, partly light rain, until 6.15 p. m. At the same time the rain commenced o fall the wind backed to east, but veered to southeast and southwest in short sucession, and backed again to east by 4.30 p. m. At ten minutes before 6 p. m. the wind eered to southwest, and at 9.15 p. m. to west, remaining so. A very variable fresh nd gentle wind until midnight. After the rain ceased to fall the fog cleared for a hort space of time, disclosing the sky, covered with cumulus clouds, and the valleys urrounding this peak filled with heavy cumulus clouds, whose upper limits were pparently from 500 to 800 feet below this station. Partly foggy and fair weather ntil midnight. Temperature slightly diminishing. Total amount of rain-fall during he day, .89 inch.

June 15.—Fair and foggy weather, with brisk and variable northwest wind, until oon, by which time the wind's force had moderated to fresh. At 1 p. m. the fog gradually disappeared, disclosing the sky, covered with heavy cumulus clouds. The weather became cloudy, and continued so until nearly 7 p. m., when it cleared to fair, and continued so until midnight. The variable fresh northwest wind became at the ame time a steady northwest wind, and moderated to gentle by midnight. Temperature slightly increasing.

June 16.—Generally fair weather with variable fresh westerly winds, which at 3.40 a. m veered to northeast, but backed to northwest again, after moderating to gentle and light, at 10.25 a. m. At the same time the weather became cloudy, and continued so until midnight, only once, at 6 p. m., clearing to fair for a few minutes. The wind being mostly light and gentle was a variable westerly, when at 8 p. m. it became a steady west wind, and after veering at 10.30 p. m. to northwest, a steady northwest wind, remaining so until the close of the day. The temperature during the entire day was considerably rising.

June 17.—Cloudy weather continued until 5.20 a. m., when it became fair until 9.40 a. m., by which time the sky again was covered with cumulus clouds, continuing so until 4 p. m. · At 4 p. m. the cumulus clouds greatly disappeared, leaving the weather fair, but for two hours only, when the sky was entirely clouded over. At 6.50 p. m. this peak was enveloped in fog, remaining so until midnight. The steady northwest wind veered by 4 a. m. to northeast, becoming variable, and after moderating from fresh to light, veered by 9 a. m. to south, by 11 a. m. to southwest, and at noon to northwest. Shortly after noon, after the wind had veered still farther to north, and backed again to northwest, its force increased to gentle, and backing to west increased to fresh. At 7 p. m. the wind had veered to northwest, but backed at 8.35 p. m. to southwest, and after increasing to brisk remained a variable brisk southwest until midnight. A distant thunder-storm passed at 12.10 p. m. southeast of this station, moving from southwest to northeast. Heat-lightning from 8 p. m. until 10 p. m. northeast of this station, and apparently very close by. Temperature rising.

June 18.—Foggy weather at the beginning of the day, which, after the fog had di appeared, nearly, at 1.20 a. m., became fair, and continued so until shortly after 3 a. m when the weather became, for about 30 minutes, cloudy, and foggy afterwards. B 9.15 a. m. the fog disappeared, leaving the weather fair, but for a short time only, b coming at 2 p. m. cloudy and threatening. Light rain began to fall from 2.15 m. until 4.25 p. m., after which time the weather was generally foggy until midnigh with the exception of only a short time, at 6 p. m., when it was cloudy. Variable bris and fresh westerly winds prevailed during the entire day. A heavy thunder-stor passed southwest of this station, moving from west to east, at 2 p. m. Temperatu slightly falling. Total amount of rain-fall during the day, .14 inch.

June 19.—Foggy weather, with variable brisk northwest and west winds, until 10. a. m., when, after the weather was for not fully one hour fair, it became cloudy, an continued so until 2.15 p. m. At this time light rain began to fall, ending at 2.45 m. The wind had by this time moderated to fresh, and was a variable west win Foggy and rainy weather until midnight. The wind at 7.45 p. m. increased to bris and high, being a variable northwest and west wind, and continued so until midnigh At 2 p. m. a heavy thunder-storm passed southwest of this station, moving from we to east. Temperature steady. Total amount of rain-fall during the day, .15 inch.

June 20.—Light rain and foggy, with brisk and high west winds, until 4.18 a. m., whe the rain ended. Foggy weather, with variable brisk west wind, until 8.10 a. m., whe the wind veered to northwest, but backed shortly afterward to west, and a heavy ra began to fall, ending at 1.15 p. m. The weather then became foggy and remained until midnight, with the exception of the time from 3.15 p. m. to 3.50 p. m., when light rain fell. The wind continued to be a variable west wind until 8.25 p. m., vee ing then to northwest, and, moderating slightly in force, remained so until midnigh Temperature nearly uniform throughout the entire day. Total amount of rain-fa during the day, 1.50 inch; the heaviest fall during twenty-four hours so far recorde

June 21.—Foggy weather, with brisk variable northwest wind, prevailed until 6. a. m. The fog now disappeared, and the weather became fair, remaining so until 1. p. m., when the sky became overcast with cumulus clouds, which again cleared aw at 6.45 p. m. Fair weather from 6.45 p. m. until midnight. At 8.15 a. m. the variab northwest wind veered to northeast and moderated to fresh, but backed by 10 a. to north, and having become a gentle wind, continued a variable northerly to wes erly wind until 8.10 p. m., when, after increasing to fresh, the wind was a variab southwest wind, remaining so until midnight. Heat-lightning on southern horizon 10 p. m. Temperature slightly rising.

June 22.—Fair weather, with fresh variable westerly winds, which by 7 a. m. mode ated to light, prevailed until 9.40 a. m. followed by cloudy weather, which continue until 5.41 p. m., with the exception of the time from 2.30 p. m. to 2.55 p. m., during t passage of a thunder-storm moving from west to east, with heavy rain and a sma amount of hail. Light rain began to fall at 5.41 p. m., ending at 7.14 p. m. T weather then became cloudy until 9.18 p. m., and partly fair and foggy until midnigh The light variable westerly wind veered at 12.10 p. m. to northeast, and at 2.30 p. to east, increasing in the mean time to gentle, and after backing to southwest at 3. p. m. and increasing to fresh, continued a variable southwest wind until midnigh From 2 p. m. until shortly after 4 p. m. this peak was completely surrounded by thu der-storms, of which only one passed over it, at 2.30 p. m. Heat-lightning southea of this station at 8 p. m. Temperature steady. Total amount of rain-fall during t day, .29 inch.

June 23.—Foggy weather from the beginning of the day until 2.50 a. m., when f nearly one hour the weather became fair, and cloudy afterwards. At 5.48 a. m. t weather had cleared to fair, and continued so until after 9 a. m., when it became aga cloudy and threatening at noon. A heavy rain fell from 12.04 p. m. until 12.21 p. Cloudy weather then prevailed until 5.35 p. m., when a thunder-storm, advancing fro northeast to southwest, passed this station, with heavy and light rain from 5.35 p. to 7.14 p. m. Light rain again began to fall at 9 p. m., ending at 11.05 p. m., from whi time until midnight the weather cleared to fair. Variable fresh westerly winds pr vailed until 7 a. m., when they moderated to gentle, and to light at noon. At 2.20 m. the wind backed to east, and, after increasing to fresh, veered at 4 p. m. to sout west, at 4.30 p. m. to northwest, and at 9 p. m. to northeast, and, after moderating gentle and light, continued so until midnight. Several thunder-storms passed by th station, one at 11 a. m. in the northwest, another at 1 p. m. in the east, moving fro south to north. Two thunder-storms at the same time were seen, at 4.14 p. m., in t northwest and west. During the passage of the thunder-storm over this station t temperature fell very rapidly, but rose again slowly toward midnight. Heat-lig ning in the northeast at 9 p. m., and in the south from 9 p. m. until midnight. To amount of rain-fall during the day, .41 inch.

June 24.—The day began with fair weather until 5.40 a. m. Foggy, and shortly aft ward cloudy, until 7.25 a. m. Fair weather then continued until noon. During t afternoon, until 6.15 p. m., the weather was cloudy and threatening; at 3 p.

vo distant heavy thunder-storms passed by this station. One thunder-storm as in the south, moving from southwest to northeast; and the second, at the same me, in the northeast, moving from north to south. A third distant thunder-storm assed by at 3.25 p. m., moving from west to east. At 7 p. m. the weather had cleared fair, and by 9 p. m. this peak was shrouded in fog, which continued until midnight. he wind was, during the entire day, very variable. A gentle northeast wind veered, 1.15 a. m., to southwest, and, after increasing to fresh, continued a variable northwest nd west wind until 9.10 a. m., which by 10 a. m. had veered to west, and by 11 a. m. northeast. From after 11 a. m. until after 4 p. m. a light northerly wind prevailed, nd, after increasing to fresh, continued a north to northwest wind until midnight. emperature increasing slightly.

June 25.—Foggy and fair weather, with variable fresh and gentle northwest to northast winds, prevailed until 10.40 a. m.; the weather became cloudy and threateng at 4.14 p. m. At 4.20 p. m. a heavy rain began to fall, moderating by 5 p. m. to ght, and ending at 5.32 p. m. Light rain again began to fall at 6.40 p. m., with wind eering to east, and continued until midnight. Temperature high and rising until 2 m., but declined very rapidly toward night. Total amount of rain-fall during the ay, .78 inch.

June 26.—Light rain ended at 12.38 a. m. Foggy weather afterward until 3.50 a. m., om which time cloudy weather continued until 8.10 a. m. Foggy weather then preailed until 9.11 p. m., when a light drizzling rain commenced to fall, and continued ntil the close of the day. Fresh, steady, and variable east wind prevailed until after a. m., moderating then to light, and backing shortly afterward to northwest. By 1 m. the wind veered to north, and at 1.25 p. m. to northeast. After increasing to esh the wind veered, at 4 p. m., to east, and increasing to brisk shortly after 6 p. m., ut moderating to fresh again after 8 p. m., veered, at 10.30 p. m., to southeast, and ontinued so until midnight. Temperature falling. Total amount of rain-fall during e day, .23 inch.

June 27.—The light drizzling rain of the previous day ended at 3.25 a. m. Cloudy eather afterward until 5.15 a. m. At 5.15 a. m. a thick fog surrounded this station, nd remained so until midnight, only diminishing in density during the afternoon and ight. The fresh southeast wind veered by 3 a. m. to south, and shortly after to southest, and after becoming gentle during the forenoon and light from 1 p. m. until 4.14 m., remained, after increasing to fresh toward night, a partly steady, partly variable outhwest wind until midnight. Temperature steady, but rather low. Total amount f rain-fall during the day, .13 inch.

June 28.—Foggy weather, with fresh variable southwest wind, which at 7.49 a. m. eered to west, prevailed until 1.25 p. m. The fog then suddenly disappeared, disclosng the sky covered entirely with heavy cumulus clouds, but shortly after 3 p. m. fog gain surrounded this peak and continued the remainder of the day, the time from 6.20 m. to 8.17 p. m. excepted, during which a light rain fell. By 1 p. m. the wind had oderated to gentle, and had become a steady west wind, but after increasing to fresh t 5.45 p. m. was variable. After 10 p. m. the wind veered to northwest and, moderaing to gentle, continued so until midnight. Temperature slowly rising. Total mount of rain-fall during the day, .15 inch.

June 29.—Foggy and rainy weather throughout the day, but rainy chiefly during the fternoon and evening. The wind until 2.50 p. m. was a variable, fresh, and gentle est to southwest wind. At 2.50 p. m. the wind backed to south, and shortly before 5 m. to southeast, remaining so until midnight. Temperature rising slowly. Total mount of rain-fall during the day, .59 inch.

June 30.—Foggy and rainy weather, with falling temperature, continued throughout he day, the rain being partly heavy, partly light rain. Variable fresh and brisk southast to east winds prevailed until noon, when the wind veered to southwest, and hortly afterward to west. At 3.45 p. m. the wind again veered to northwest and remained fresh and brisk until midnight. Total amount of rain-fall during to-day, .95 ch.

MONTHLY SUMMARY.

Iean temperature during June, 1873	54°.1
Iighest observed temperature	70°
owest observed temperature	41°
otal amount of rain-fall	10.07 in.
umber of rainy days	22
he prevailing winds were from	N. W. and W.
umber of miles traveled	8,029

Instruments in use are all in good condition.

W. E. SMITH,
Observer.

Abstract of daily journal kept on the summit of Mount Mitchell, North Carolina, from Ju 1 *to July* 31, 1873.

July 1.—Foggy weather continued, with brisk, variable westerly wind, until 9.40 a. n when the fog disappeared and fair weather ensued, remaining so until after 2 p. m.; clouc from 3 p. m. until 6 p. m. By 7 p. m. the weather was fair again, and clear by 10 p. n remaining clear until midnight. By 12 m. the brisk northwesterly wind had moderat to fresh, and backed after 5 p. m. to westerly, and by 8 p. m. to southwesterly, increa ing to brisk in the mean time and remaining so until midnight. Temperature risi during the day, but falling toward night.

July 2.—Clear weather until 2.10 a. m., when fair weather followed, and continu until noon; cloudy until 4.30 p. m.; fair weather then prevailed the remainder of t day. Variable, brisk southwesterly wind prevailed until 6 a. m. The wind moderat to fresh after 6 a. m. and veered to west and northwest, and becoming gentle, back at 2.20 p. m. to southwest, and continued, after increasing to fresh and to brisk at 11. p. m., until midnight. Three distant thunder-storms passed by the station, one at 2. m., northeast of the station, moving from east to west, another at 2.40 p. m. in the ea moving from northeast to southwest, and the third at 4.05 p. m. in the northwe moving from south to north. Temperature rising throughout the day.

July 3.—Generally fair weather with steady, high temperature, and variable nort westerly to southwesterly winds, which in the earlier part of the day were brisk a fresh, but moderated to gentle and light at noon, and increased to fresh toward nigh prevailed during the day.

July 4.—Fair and foggy weather, with fresh westerly winds, until noon. The wi calmed for a brief period at noon and the weather became cloudy; generally f weather, with variable fresh and brisk westerly winds, until midnight. Heat-ligh ning from 10.10 p. m. until midnight. Temperature high and rising.

July 5.—Foggy at the beginning of the day. A heavy thunder-storm, with hea rain, passed, with northwesterly wind, increasing to brisk and rapidly-falling tempe ature over this station at from 1.35 a. m. to 2.20 a. m., moving from northeast to sout west. Generally foggy, with variable brisk northwesterly wind, until noon. second thunder-storm, with heavy rain and a small amount of large hail, passed ov at from 2.34 p. m. to 3.40 p. m., advancing from north to south. Light rain and fog weather, with variable brisk northerly winds, prevailed until midnight. Tot amount of rain-fall during the day, 1.07 inches. Distant thunder-storms passed by th station at 2 p. m., one in the north and the other in the northwest.

July 6.—Foggy weather, with variable brisk northwesterly wind, until 9.15 a. m fair the remainder of the day. The wind, after moderating to fresh, veered at 4 p. to north and at 5.40 p. m. to northeast, increasing in the mean time to brisk again, b moderated to light toward midnight, after becoming a steady northeast wind. Te perature rising very slowly.

July 7.—Generally fair weather, with variable light and gentle northerly wind until 6.35 p. m. Foggy weather, with wind backing to southwesterly and increasi to fresh and brisk, until midnight. Temperature rising slowly.

July 8.—Brisk southwesterly wind and dense fog, with light rain at 6 a. m., until a. m., when wind veered to northwest. Cloudy at noon. Foggy weather prevaile with brisk and fresh northwesterly wind, until midnight. Temperature falling co siderably. Total amount of rain-fall during the day, .03 inch.

July 9.—Wind veered to northeast at 2 a. m., with fair weather. Heavy cumul clouds in the valleys below from 4 a. m. to 6 a. m. At 8.20 a. m. the wind, havi moderated to light, veered to southeast, and calmed entirely at 10 a. m., but soon ro again and backed to northwest, remaining so until 2.45 p. m., when it veered to nort east and east, increasing in the mean time to fresh. Generally cloudy weather fro 8.20 a. m. until 7.30 p. m., when fog settled upon the mountains. Light rain from 10.25 m. to 10.45 p. m. Temperature rising slowly. Total amount of rain-fall during t day, .02 inch.

July 10.—Easterly winds with light rain until 1.35 a. m.; shortly after 2 a. m. t wind veered to southwest, and the fog raised about 3 a. m., but settled again at 5 m. and remained until 10 a. m.; heavy rain at 11.45 a. m. Wind veered during the a ternoon, with light showers, from southwest to south and to west, towards midnig increasing to brisk. Distant thunder-storms at 5 p. m. in south and southwest; hea lightning in south and southeast horizon at 10 p. m. Fair weather from 8.38 p. m. un midnight. Temperature declining slightly. Total amount of rain-fall during the d .50 inch.

July 11.—Foggy weather with brisk and steady westerly wind, until 5.40 a. m., whe the wind veered to northwest and moderated to gentle; fair weather until noon; cloud weather, with light northwesterly wind, until 6.25 p. m.; a calm occurred at 5 p. m.; 6.25 p. m. the wind veered to northeast, and shortly afterward to east, increasing to fres and continued with foggy weather until midnight. Temperature rising.

July 12.—Foggy and cloudy weather until 3.40 a. m.; fair until 6.10 a. m., when fo settled again; light rain from 8.50 until 10.10 a. m.; steady, brisk, and fresh easterly wind until 11.45 a. m., when wind veered to southeast; partly fair and cloudy weather until 6.30 p. m.; foggy with variable, brisk and fresh easterly wind until midnight. Temperature steady. Total amount of rain-fall during the day .07 inch.

July 13.—Foggy weather, with variable, fresh, and brisk southeasterly wind until 8.10 a. m.; fair until 8.40 p. m. At 12.20 p. m., the wind backed to east, and continued so until midnight. Foggy weather prevailed from 8.40 p. m. until midnight. Temperature steady.

July 14.—Foggy, with fresh southeasterly wind at the beginning of the day; at 1.35 a. m. the wind veered to southwest and the weather became fair, remaining so until 9.20 a. m.; cloudy weather with light showers until 5 p. m.; fair the remainder of the day; light and gentle variable westerly winds, with a calm at 1 p. m. until midnight. Temperature rising. Total amount of rain-fall during the day, .14 inch.

July 15.—Partly fair and foggy weather, with variable, fresh, and brisk northwesterly to northeasterly wind until 9.15 a. m.; cloudy until 4.25 p. m., when a heavy rain began to fall, with falling temperature and wind, which had somewhat moderated, increasing to brisk again. The rain continued, after moderating to light, until 7.15 p. m.; fair weather, with variable, brisk, and fresh northeasterly wind, prevailed until midnight. Total amount of rain-fall during the day, .31 inch.

July 16.—Generally fair and foggy weather, with variable, brisk, and fresh northeasterly wind, until noon, by which time the wind had moderated to light. At 12.10 p. m. the wind backed to northwest, and the weather became cloudy, remaining so until 4.20 p. m. Fair and foggy weather, with variable light and gentle northwesterly wind, and a calm at 7 p. m., until midnight. Temperature rising.

July 17.—Fair weather prevailed until 10.20 a. m.; cloudy until 6 p. m., from which time the weather continued fair until midnight; variable westerly wind until 3.40 a. m. The wind veered then to northwest, and became steady, moderating in force, and calmed at 4.14 p. m. A second calm at 7 p. m; afterward a variable southwest wind set in and continued until midnight, increasing gradually to brisk. Temperature rising.

July 18.—Fair weather at the beginning of the day, which by 2.15 a. m. became foggy and continued so until 9.40 a. m.; cloudy and rainy until 2.45 p. m; generally foggy weather then prevailed until midnight. Variable, fresh, and brisk southwesterly to northwesterly winds throughout the day. A distant thunder-storm passed by this station at 1 p. m. in the west, moving from south to north. Temperature falling. Total amount of rain-fall during the day, .38 inch.

July 19.—Generally foggy and cloudy weather, with fresh and brisk variable northwesterly and westerly winds and rapidly falling temperature, during the entire day, with the exception of the time between 5.40 a. m. to 6.10 a. m., and 5 p. m. to 5.05 p. m., when a light rain fell, and from 11.40 a. m. to 2.10 p. m., during which time the weather was fair, clearing toward midnight. Total amount of rain-fall during the day .03 inch.

July 20.—Generally cloudy weather, with fresh westerly winds and falling temperature, during the day. Foggy weather toward midnight. From 8 p. m. to 9 p. m. the wind had calmed entirely.

July 21.—Foggy and cloudy weather, with steady, fresh, and gentle west and northwest wind, until 3.40 p. m. Fair weather until midnight. At 9 p. m. the wind calmed and the sky was perfectly clear. Temperature still declining.

July 22.—Variable, gentle southerly winds and partially cloudy and fair weather until 10 a. m., when the wind backed to northeast and soon afterward to southwest; during the afternoon the wind veered to east and south, and at midnight to southwest. Generally foggy and cloudy weather until 9 p. m. and fair until midnight. Temperature rising slowly.

July 23.—Foggy and fair weather, with variable southerly to westerly winds, until 7.25 a. m., when the wind veered to northwest. Generally cloudy and fair weather, with occasional calms, until 10 p. m., when the weather became perfectly clear. Temperature rising.

July 24.—Clear weather until 3.30 a. m.; fair and foggy, with steady, gentle northwest wind until 8 a. m., when the wind veered to northeast, and finally to southwest. Cloudy and foggy weather, with occasional calms, until 9 p. m., when the weather became fair and clear by 10.39 p. m. At 10.14 p. m. the wind veered to northwest and north, and continued so until midnight. Temperature steady.

July 25.—Generally fair and cloudy weather, with variable and steady northwest to southwest winds, until noon. Foggy and rainy weather, with variable south and southwest wind, which increased to brisk by 8 p. m., until midnight. Temperature slightly falling. Total amount of rain-fall during the day, .24 inch.

July 26.—Foggy and rainy weather, with variable brisk and fresh southwest wind, until midnight. Temperature slightly rising. Total amount of rain-fall during the day, .19 inch.

July 27.—Foggy and cloudy weather until 10.30 a. m., when rain began to fall, and continued with but little interruption until midnight. Steady and variable southwest wind prevailed during the day. Three thunder-storms passed during the day over this station; the first with light rain at 1 p. m., advancing from north to south; the second and third with heavy rain, moving from south to north, at 6.40 p. m. and 11.55 p. m. respectively. A distant thunder-storm passed by in the east at 6 p. m., moving from south to north. Temperature steady. Total amount of rain-fall during the day, 1.58 inches.

July 28.—Rainy and foggy weather until 7.45 a. m., when the weather became cloudy, remaining so until 3.39 p. m., when a heavy rain began to fall, ending at 5.32 p. m. Foggy weather during the remainder of the day. Variable, fresh, and brisk westerly winds prevailed throughout the day. Three thunder-storms passed over this station during the day; the first, with heavy rain, at 1 a. m., moving from south to north. The second and third thunder-storms followed each other in short succession from 3.39 p. m. to 5.32 p. m., moving from southeast to northwest, during the passage of which the greatest amount of rain fell so far here on record, amounting to .99 inch within 1 hour and 53 minutes. Temperature steady. Total amount of rain-fall during the day, 1.49 inches.

July 29.—Generally fair and cloudy weather, with steady northwest wind and slightly diminishing temperature, prevailed throughout the day.

July 30.—Fair and foggy weather until 7.35 a. m. Cloudy until after 10 a. m. At 11.25 a. m. light rain began to fall, and continued with little interruption until 3.45 p. m. Generally foggy and cloudy weather until 11.20 p. m. Fair at midnight. Steady northwest wind prevailed until 7.20 a. m., backing then in short succession to west, southwest, south, southeast, and finally east, until noon, and continued a variable southerly wind with increasing force until midnight. Temperature rising. Total amount of rain-fall during the day, .31 inch.

July 31.—Fair weather until 8.15 a. m. Generally foggy and cloudy weather prevailed the remainder of the day. Light rain fell from 1.15 p. m. to 2.55 p. m. Light to fresh southerly winds until 6.20 p. m., when the wind veered to northwest, and increasing to brisk continued until midnight. Temperature steady. Total amount o rain-fall during the day, .27 inch.

MONTHLY SUMMARY.

Mean temperature during July, 1873	56°.4
Highest observed temperature	72°
Lowest observed temperature	46°
Total amount of rain-fall	6.59 in.
Number of rainy days	15
The prevailing winds were from	NW. and SW.
Number of miles traveled	7,131

All instruments in use are in good condition.

W. E. SMITH.
Observer-Sergeant, Signal-Service, U. S. A.

F.

Abstract of journal for the month of August, 1873; station, summit of Mount Mitchell, North Carolina.

August 1.—Generally foggy and cloudy weather, with steady temperature and northwest and west winds, which until noon were variable and mostly brisk, but becam steady and fresh during the remainder of the day, prevailed throughout the entir day.

August 2.—Fair weather in the earlier morning. Generally foggy and cloudy unti after 8 p. m., when the weather became fair and remained so until midnight. Light rain from 6.50 a. m. to 7.45 a. m. Steady fresh northwest wind prevailed throughout the day. Temperature slightly falling. Total amount of rain-fall during the day, .0 inch.

August 3.—Generally fair and cloudy weather, with rising temperature and steady fresh northwest wind, prevailed throughout the day. Light rain fell from 6.30 p. m. t 6.48 p. m., and from 7.20 p. m. to 7.40 p. m. A distant thunder-storm passed by thi station, in the south, at 3 p. m., moving from southwest to northeast. Total amount o rain-fall during the day, .07 inch.

August 4.—Fair weather, with variable westerly winds, until 7.35 a. m. Generally foggy and rainy weather until midnight. Temperature slightly falling. Total amount f rain-fall during the day, .55 inch. Thunder-storm at 2.20 p. m., moving from west o east.

August 5.—Foggy weather, with variable easterly winds and falling temperature, hroughout the entire day.

August 6.—Generally foggy weather, with variable easterly winds, until 9.15 p. m., vhen the wind veered to south and the weather became fair. Temperature low for he season.

August 7.—Generally foggy and cloudy weather, with variable south and west winds, hroughout the day. Temperature rising.

August 8.—Fair weather prevailed until 4.20 a. m., when fog settled on the mount-ins and continued until midnight. Light rain fell from 9.10 a. m. until 9.40 a. m., nd partly heavy and light rain from 4.25 p. m. to 5.10 p. m. Steady, fresh, and brisk orthwest wind prevailed throughout the day. Temperature slowly rising. Total mount of rain-fall during the day, .43 inch.

August 9.—Generally foggy weather, with heavy rain from 2.15 p. m. until 9.15 p. n., when the weather became fair. Generally brisk and fresh, steady and variable orthwest wind prevailed during the day, moderating to light by midnight. Tempera-ure rising but slowly. Total amount of rain-fall during the day, .20 inch.

August 10.—Fair weather continued until 10.15 a. m. Cloudy until noon. At 1 p. m. ight rain began to fall, increasing to heavy during the passage of a thunder-storm, which noved from east to west over this station at 2 20 p. m. Cloudy and foggy until 7.32 p. n. Partly heavy and light rain from 7.32 p. m. until 10.30 p. m., clearing toward and t midnight; steady, gentle, and fresh northwest wind until 10.40 a. m., when he wind veered to northeast and continued a variable easterly wind until midnight. 'emperature steady. Distant thunder-storms in southwest from 2.30 to 3.15 p. m. 'otal amount of rain-fall during the day, 1.17 inch.

August 11.—Fair weather until after 8 a. m. Generally foggy and cloudy, with heavy ain from 4.25 p. m. to 4.40 p. m., until 6.20 p. m. Fair during the remainder of the day. 'ariable, gentle, and fresh northeast to south winds throughout the day. Temperature alling. Total amount of rain-fall during the day, .15 inch.

August 12.—Fair weather continued until 8.25 a. m. Cloudy until 7.30 p. m. Foggy he remainder of the day. Gentle and fresh variable westerly winds prevailed through-ut the day. Temperature rising. During the afternoon three distant thunder-storms assed by this station, viz, at 2 p. m. in the southwest, at 5 p. m. in the northwest, and t 6 p. m. in northeast.

August 13.—Light rain in the early morning from 12.25 a. m. to 12.40 a. m. Foggy ntil 6.25 a. m. At 6.25 a. m. a very severe thunder-storm with heavy rain passed ver this station, advancing from north to south. Heavy rain continued until 1.15 p. n. Clearing at 3 p. m., but clouding over by 4.20 p. m. Foggy from 6.48 p. m. until nidnight. Temperature falling rapidly during the passage of the thunder-storm, and emaining low during the remainder of the day. Variable fresh westerly winds pre-'ailed throughout the day. Total amount of rain-fall during the day, 1.90 inch.

August 14.—Foggy weather until noon, when the fog slowly disappeared. Sky overed with heavy cumulus clouds until after 5 p. m. Fog again then settled upon the nountains. Shortly after 10 p. m. the fog nearly disappeared, revealing a cloudless ky, and remaining so until midnight. Temperature low and falling. Variable, brisk, nd fresh west and northwest winds prevailed throughout the day.

August 15.—Foggy weather, with showers of light rain from 8.30 a. m. to 8.50 a. m., nd from 9.50 a. m. to 10.10 a. m., until noon, when the fog disappeared, disclosing the ky covered with heavy cumulus clouds. Fair weather prevailed from 5.20 p. m. ntil midnight. Temperature low, but slowly rising. Variable westerly winds hroughout the day. Total amount of rain-fall during the day, .06 inch.

August 16.—Generally fair until 8.25 a. m., when the weather became cloudy, remain-ng so until 3.40 p. m. Foggy during the remainder of the day. Fall of light rain rom 3.10 p. m. to 4.03 p. m. and from 6.15 p. m. to 6.40 p. m. Temperature rising onsiderably. Variable fresh westerly winds, which moderated to gentle and light rom 11 a. m. until after 6 p. m. and increased then again to fresh, prevailed through-out the day. Total amount of rain-fall during the day, .04 inch.

August 17.—Foggy weather continued until 10.35 a. m., when a light rain began to all, ending at 11.08 a. m. Generally foggy and cloudy until 1.32 p. m. Partly heavy nd light rain until 3.25 p. m., clearing at 4.14 p. m., but clouding over shortly after-vard. Light rain again fell from 8.35 p. m. until 9.11 p. m. Foggy the remainder of he day. Distant thunder-storms at 2 p. m. in south, at 8 p. m. in west, and at 9 p. m. n southwest. Heat-lightning around the whole horizon from 7 p. m. to 7.45 p. m. 'ariable fresh and gentle east to south winds until noon; variable fresh south to south-vest winds until midnight. Temperature slightly rising. Total amount of rain-fall luring the day, .40 inch.

August 18.—Foggy weather, with heavy rain from 1.10 a. m. to 1.35 a. m., until shortly fter 8 a. m., when the weather became cloudy, remaining so until 2 p. m., with the xception of the time from 10.40 a. m. to 11.06 a. m., during which light rain fell. At

2 p. m. light rain then began to fall, becoming heavy at 2.10 p. m. during the passa of a thunder-storm, which advanced slowly from west to east, and moderated again 2.53 p. m. The rain ended at 5.15 p. m.; cloudy until after 8 p. m.; fair the remaind of the day. Variable fresh and brisk south and southwest winds until 2 p. m., whe the wind veered to northwest and moderated to gentle, but increased to brisk a veered to north during the passage of the thunder-storm, after which the wind back to west and remained so, moderating to light, until midnight. Temperature risi until 2 p. m., but falling rapidly until 3.10 p. m., when it rose slightly and beca steady. Total amount of rain-fall during the day, .70 inch.

August 19.—Generally fair weather until 7.30 a. m.; cloudy until noon; foggy, wi fall of light rain from 3.25 p. m. to 4.45 p. m., and of heavy rain from 6.38 p. m. to 7. p. m., until midnight. Temperature slightly falling. Variable gentle and lig westerly and easterly winds, with occasional calms until after 3 p. m., when the wi veered to north and northeast and increased to fresh, remaining so until midnig Total amount of rain-fall during the day, .54 inch.

August 20.—Heavy rain at the early beginning of the day. Fair and foggy, wi light rain from 10.05 a. m. to 10.20 a. m., until noon. Generally foggy, with very hea rain, until midnight. Temperature steady. Generally variable light to fresh easter wind, with occasional calms during the forenoon, prevailed throughout the day. Tot amount of rain-fall during the day, 2.08 inches.

August 21.—Generally foggy and cloudy weather prevailed, with light rain-fall fro 2.30 p. m. to 2.40 p. m., and 4.20 p. m. to 4.50 p. m., throughout the day. Variab fresh southeast to west winds, with a calm at 2 p. m., during the entire day. Tempe ature rising. Total amount of rain, fall during the day, .16 inch.

August 22.—Generally cloudy and fair weather until 9.10 a. m., foggy until 10.46 a. when light rain began to fall, increasing soon to heavy and ending at 11.36 a. Light rain during the greater part of the afternoon. Cloudy until 10.15 p. m. Fa until midnight. A thunder-storm, with light rain, passed over at 3 p. m. moving fro northwest to southeast. Steady westerly winds until 10 a. m. Variable fresh nort east wind until midnight. Total amount of rain-fall during the day .25 inch.

August 23.—Fair weather in the morning, cloudy during the forenoon and afternoo fair until midnight. A distant thunder-storm passed by at 2 p. m. in the northea Light rain from 3 p. m. to 3.25 p. m. Variable east to northwest winds throughout t day. Temperature rising. Total amount of rain-fall during the day, .03 inch.

August 24.—Generally fair weather, with rising temperature and light to fresh nor to northwest winds, with occasional calms, prevailed throughout the day.

August 25.—Fair weather continued until after 3 p. m. Partly foggy and clou during the remainder of the day. Light rain-fall from 6.30 to 6.50 p. m. Temperatu still rising. Variable westerly winds prevailed until 6.30 p. m., when a steady, bri northwest wind set in and remained so until midnight. Total amount of rain-fall du ing the day, .03 inches.

August 26.—Partly foggy and cloudy weather during the entire day, with the e ception of the time from 6.40 p. m. to 7.20 p. m. when a heavy rain fell. The fresh a brisk northwest wind continued steady until midnight. Temperature falling slow Total amount of rain-fall during the day, .11 inch.

August 27.—Foggy and cloudy weather until 8.30 a. m., when it became fair, b cloudy again shortly after 1 p. m., remaining so until midnight. Distant thunde storms at 9 p. m. in west and north and at 3 p. m. in southeast and east. Temperatu falling. Steady fresh and brisk northwest wind until after 1 p. m., when the wind back to west and moderated to gentle, but increased to fresh by midnight.

August 28.—The weather continued foggy until 5.57 p. m., when a light rain beg to fall, ending at 8.10 p. m., after which the weather became fair, but was foggy aga by midnight. Variable southwest to east winds throughout the day. Temperatu falling considerably. Heat-lightning on western horizon at 9 p. m. The singular ph nomenon of a fog-bow of great brilliancy, caused by the moon, was observed at 10 m. Total amount of rain-fall during the day, .34 inch.

August 29.—Generally fair and foggy until 8 a. m.; cloudy until 4.25 p. m.; part fair and cloudy until midnight; variable southwest to northwest wind prevailed d ring the day. Temperature steady. Light rain-fall from 3.15 p. m. to 3.40 p. m. Di tant thunder-storm at 3 p. m. in the west. During the latter part of the afternoon t valleys were filled with heavy cumulus clouds. Total amount of rain-fall during t day, .06 inch.

August 30.—Fair weather at the beginning of the day, foggy until 10.30 a. m.; clou until shortly after 5 p. m.; generally fair the remainder of the day. Clear at midnig Variable fresh to brisk westerly winds prevailed throughout the day. Temperatu steady.

August 31.—Fair weather continued until 5.25 a. m., when a dense fog settled on t mountains, remaining so until shortly after 8 a. m.; cloudy until 3 p. m.; fair t remainder of the day. Variable and steady westerly winds prevailed throughout t day. Temperature rising.

MONTHLY SUMMARY.

Mean temperature during August	55°.3
Highest observed temperature	69°.
Lowest observed temperature	43°.
Total amount of rain-fall	9.34 inches.
Number of rainy days	21
The prevailing winds were from	N.W.
Number of miles traveled	6,156

Instruments in use are all in good condition.

September 1.—Partly fair and cloudy weather, with rising temperature and light to fresh variable westerly winds, throughout the day.

September 2.—Generally cloudy until 3.35 p. m., when a heavy rain began to fall, ending at 6.20 p. m.; foggy until 9.20 p.m.; fair until midnight. Variable gentle to fresh westerly winds prevailed throughout the day. Temperature slightly falling. Total amount of rain-fall during the day, .52 inch.

September 3.—Generally foggy and cloudy weather with steady temperature and variable southeast to southwest and west winds, which shortly after 6 p. m. became brisk throughout the day. Light rain fell from 2 p. m. to 2.35 p. m. Heat-lightning at 7 p. m. on northeastern horizon. Total amount of rain-fall during the day, .03 inch.

September 4.—Partly foggy and cloudy weather, with falling temperature and brisk variable and steady southwest to northwest winds, throughout the day. Fall of light rain from 10.15 a. m. to 10.50 a. m. Total amount of rain-fall during the day, .09 inch.

September 5.—Foggy weather, with slightly rising temperature, and variable brisk southwest to northwest wind throughout the day. Light rain fell from 12.35 p. m. to 1.35 p. m., and heavy rain from 3.20 p. m. to 4.05 p. m., during which time the wind veered suddenly to northeast, but backed to northwest after the rain ended. Distant thunder-storm at 6 p. m. in the north. Total amount of rain-fall during the day, .28 inch.

W. E. SMITH,
Observer-Sergeant Signal-Service, U. S. A.

G.

Abstract of journal for the month of August, 1873.

BASE OF MOUNT MITCHELL, YANCEY COUNTY, NORTH CAROLINA.

July 29, 1873.—Arrived at "Old Fort," McDowell County, North Carolina.

July 30.—Proceeded to summit of Mount Mitchell, compared barometer with those at that station, and selected site for base station.

July 31.—Returned to "Old Fort."

August 2.—Started for "Toe River Valley," in a wagon drawn by three mules, traveled thirty miles, and laid over for the night at the base of the Blue Ridge Mountains.

August 3.—Crossed the "Blue Ridge" and arrived at site of station at 10 p. m.

August 4.—Commenced to put instruments in position. Worked hard all day.

August 5.—Everything in readiness except the "Daniells" battery for self-registering anemometer, which is not yet in order.

Comparative readings of barometers Nos. 185 *and* 1915, *taken on the summit of Mount Mitchell July* 30, 1873.

Summit barometer, (No. 185.)			Base barometer, (No. 1915.)		
Time.	Barometer.	Attached thermometer.	Time.	Barometer.	Attached thermometer.
10.40 p. m	23.87	63	10.40 p. m	23.89	63
10.50 p. m	23.88	63	10.50 p. m	23.89	64
11.00 p. m	23.86	62	11.00 p. m	23.88	63
11.10 p. m	23.86	62	11.10 p. m	23.89	63
11.20 p. m	23.87	62	11.20 p. m	23.89	62
11.30 p. m	23.87	62	11.30 p. m	23.88	62
11.40 p. m	23.86	63	11.40 p. m	23.88	63

The difference of the readings of the two barometers cannot be noted, owing to the summit station not being furnished with the instrumental error of barometer No. 185.

August 6.—The barometer has fluctuated some during the day. An increase of pressure was shown from 6 to 9 a. m., but fell off .08 by 5 p. m., and increased slightly from that time until midnight, giving a mean of 27.517. The thermometer read 60° at 1 a. m., sank gradually until 5 a. m., when the column began to ascend and attained a maximum of 80° at 12 o'clock, (noon,) decreased during the afternoon, and finally reached a minimum at 54° at 12 p. m. Mean thermometer, 64°.2. Humidity ranged between 54 and 94 per cent. With the exception of a light easterly wind, from 8 a. m. to 2 p. m., the atmosphere has remained perfectly calm. About one-half of the sky was covered by stratus clouds at 1 a. m.; they, however, disappeared at 2 a. m., only to re-appear at 3 a. m. and remain throughout the day, varying in amount from one to three-fourths, and completely covering the sky at last observation. Cumulus and cirrus clouds were observed during the day; the latter having a great elevation and being very beautiful.

August 7.—The barometer sank unevenly from 27.48 at 1 a. m. to 27.36 at 5 p. m., and then began to rise, and continued until midnight. Daily mean barometer, 27.426. The minimum temperature, 55°, was shown at 1 a. m.; the mercury then began to ascend slowly, and after 7 a. m. accelerated its pace, and attained a maximum of 76° at 10 a m.; decreased regularly and slowly the rest of the day. Daily mean thermometer, 66°.2. Humidity ranged from 63 to 95 per cent., being greatest during the night hours. A calm has prevailed throughout the entire day. Stratus clouds covered the sky at 1 and 2 a. m., having a motion from the south; by 3 a. m. they had partly disappeared, but soon formed again, rendering it cloudy at 4 a. m.; they broke up shortly after, and began to move off from the southwest, being invisible at 5.30 a. m. Cumulus clouds now appeared, having a slow motion toward the northeast. Cirrus clouds formed after 7 a. m., greatly elevated; several forms of the "curl clouds" were observed, the "horse-tails" and "twisted tufts" being the most numerous. Stratus clouds formed again at 9 a. m., and continued the remainder of the day, varying in amount from one to four fourths. Cumulus and cirrus clouds were seen during the day, their motion being from the west. Some very well-defined cirro-cumulus clouds were observed at 10 and 11 p. m.

August 8.—The barometer increased a little from 1 to 9 a. m., at which time the maximum reading of the day occurred, and then began to decrease, and continued slowly until 5 p. m., having then fallen .07; from that time until midnight its course was marked by fluctuations, but the last reading shows a slight gain. Mean daily barometer, 27.375. A steady temperature of 60° was shown by the thermometer, between the hours of 1 and 4 a. m.; after the latter hour the column began to ascend and attained a maximum of 77° at 1 p. m.; during the afternoon and evening the mercury sank evenly, and finally dropped to 60° again. Mean daily thermometer, 66°.2. Humidity ranged from 73 to 100 per cent. Gentle westerly winds were felt at the hours of 1, 4, and 5 p. m., the remainder of the day being perfectly calm. A fog arising from the river enveloped the station from 1 to 3 a. m., but dissipated soon thereafter. Stratus clouds covered the sky at 4 a. m. and as the morning advanced assumed a threatening appearance, which was verified by a rain, varying from light to heavy, commencing at 8.25 a. m., and continuing at intervals until 11.25 a. m.; commenced to clear up shortly after the rain ceased; the stratus clouds moved off from the west and disappeared. Large masses of white cumulus clouds now put in an appearance, moving slowly from the west, accompanied by a few silvery cirrus clouds floating at a great height in the air, and moving much slower than the cumulus clouds. Stratus clouds partly covered the sky at 2 p. m., increasing until rain descended, at 4.48 p. m., lasting only a short time. A few stratus clouds were visible during the evening, and above them about one-fourth cirrrus clouds, which at one time assumed the cirro-stratus formation. A fog commenced to rise at 10 p. m., and at 11 p. m. all was hidden. Whole amount of rain collected during the day, .05.

August 9.—The pressure of the air, as shown by the barometer, increased slightly during the morning until 9 a. m., and then began to decrease, going down regularly until 5 p. m., when it began to rise, and continued advancing the rest of the evening. Mean barometer, 27.371. A minimum temperature of 60° was shown from 1 to 3 a. m., and then the mercury commenced to rise at the rate of one degree per hour until after 6 a. m., when it rose rapidly—the 7.14 a. m. showing a rise of six degrees, and the 8 a. m. a rise of 10° since last observation. After 8 a. m. and until 3 p. m. the column fluctuated considerably between 77° and 80°, the latter number being the maximum, and was read at 11 a. m. and again at 1 p. m. At 4 p. m. the temperature began to decline, and was still falling at last observation. Mean temperature, 69°.5. The percentage of humidity was very large, being above 90 per cent. for thirteen hours of the day. The atmosphere was perfectly calm until 7.30 a. m., when a gentle wind sprung up from the northeast, and continued steady in that direction for six and a half hours, being the longest time that wind has been felt since the establishment of the station. Calmed again at 3 p. m., and remained so for the rest of the day. Stratus clouds, having a tardy motion from the west, covered the sky at 1 and 2 a. m. A fog then began to rise from the river and sides of the mountains, and soon hid every object from view, which continued until after 4 a. m., when it began to ascend, forming four-fourths stratus at 5 a. m., and dissipating shortly after 6 a. m. Cumulus clouds now formed and remained, looking majestic and grand, the greater part of the day. A shower of rain fell between 3.10 and 3.40 p. m. Stratus clouds were seen again at 4.30 p. m., and continued visible the rest of the evening, varying in amount from one to four-fourths, and moving slowly from the west and north. Another shower of rain fell from 7.20 to 8.30 p. m. Cirro-cumulus clouds were seen at 9 and 11 p. m., but were not well defined. A fog formed and hid everything at 12 p. m. Amount of rain collected during the day, .08. A very heavy dew has been deposited every night during the past week.

August 10.—The barometer has fluctuated continually to-day, the oscillations being comprehended between 27.38 and 27.43. Mean barometer, 27.390. The thermometer was unsteady in the early part of the morning, falling off from 63° at 1 a. m. to a minimum of 59° at 5 a. m. After 6 a. m. it began to rise, and acquired a maximum of 81° at 11 a. m. and fell 10° within the next hour, (rain falling at the time,) commenced to rise again at 1 p. m. and continued slowly until 5 p. m., when it began to sink, going down gradually to 60° at 12 p. m. Mean thermometer, 69°.1. Calm from 1 to 3 a. m., and then a light northeaster was felt, but soon died away. A light northwest breeze set in at 9 a. m., but changed to northeast at 10 a. m., and remained in that direction until after 4 p. m., when it calmed again. A gentle north wind sprung up about 7 p. m., changing to northwest at 7.30 p. m., and kept that direction until 10.20 p. m. and then grew calm. The fog reported in my journal at 12 p. m. of yesterday still continues this morning, and, if possible, grows more dense. After 4 a. m. it partly cleared off and revealed about one-fourth cirrus clouds, and soon after 6 a. m. had entirely disappeared. Cirro-cumulus clouds were then seen moving from the west. Cumulus clouds soon succeeded the compound combination, and, from the intense heat of the sun, rose up in large, rounded, beautiful masses, which covered the sky at 11.30 a. m. A thunder-storm commenced very suddenly at 11.35 a. m., and soon the rain became general and the valley filled with rain-clouds. Rain ceased at 12.30 p. m. Stratus clouds were visible during the greater part of the remainder of the day. Cumulus, cirrus, and cirro-cumulus were also seen moving from some northerly point until hidden by stratus clouds at 6.20 p. m. A light shower of rain fell from 6.38 p. m. to 6.55 p. m. Commenced again, very heavy, at 7.25 p. m., the water at times coming down in torrents. Rain ended at 9.46 p. m., and the clouds began to clear off and at 11.30 p. m. had all disappeared, but a fog commenced to form and was fast covering objects at last observation.

August 11.—The barometrical column oscillated some to-day, but the fluctuations are not such as to call for special remark. Daily mean barometer, 27.372. The thermometer was steady at 61° and 60° until after 6 a. m., when it began to increase and went up to a maximum of 76° at 11 a. m., and sank gradually to a minimum of 59° at 12 p. m. Mean daily temperature, 67°.7. The humidity to-day has been great; the hygrometer indicated 100 % at 6 a. m. Calm from 1 to 8.30 a. m.; a gentle breeze then set in from the southeast, and kept steady at that point until 3.15 p. m., and from that time until after dark there ensued a succession of calms and light east winds, but finally calmed at 9 p. m., remaining so at last observation. A dense fog hung over the station until 6 a. m., and then began to lift, and as it ascended dissipated and had entirely dissolved at 7 a. m. Stratus clouds were seen for a few hours after sunrise, and also a few cirrus and cumulus. The stratus and cirrus clouds had all disappeared at 9.30 a. m., leaving lofty cumulus clouds, varying in amount from one to two fourths, and moving for a couple of hours from the southeast, but changed direction to northwest at 1 p. m. and to south at 2 p. m. Stratus clouds now formed, and with the cumulus clouds increased until the sky was overcast, at 5 p. m. Stratus clouds continued increasing, hiding the upper clouds, and presented a threatening appearance soon after sunset. A light rain fell about dark; the amount collected being too small for measurement. Cleared up soon after the shower; the stratus clouds moved off from the southeast, revealing one-fourth cirrus clouds, progressing slowly toward the east. A perfectly clear sky was observed at 9 p. m., the moon and stars shining brightly. About one-fourth cumulus clouds formed a little before 10 p. m., but soon passed over from the south, and shortly after cirrus clouds, greatly elevated, and moving the opposite direction to that of the cumulus clouds, were seen. At midnight ill-defined cirro-cumulus clouds, having the appearance of the shorn side of a fleece of wool, were noticed moving from the southwest. At the same time a long line of fog could be seen lying close to the base of the mountains, and encircling the whole valley. A halo around the moon was first noticed at 10.45 p. m., the color being of a faint yellow or straw color, the outer edges being tinged with a pale red.

August 12.—The barometer fluctuated between 27.35 and 27.37 until 9 a. m., and then commenced to fall and sank quite rapidly to 27.28 at 3 p. m., oscillating between that height and 27.31 the rest of the day. Mean barometer, 27.324. The thermometer exhibited its minimum of 57° at 2 a. m., and increased to a maximum of 79° at 11 a. m., and after fluctuating some hours in the seventies decreased to 64° at midnight. Mean thermometer, 67°.9. Humidity ranged between 61 and 94 per cent. A calm from 1 to 9 a. m. was succeeded by a light east wind, which lasted until after 3 p. m., being, however, interspersed with short calms. A dead calm took place at 4 p. m., the atmosphere remaining in this condition at last observation. A fog hid all objects, except those in close proximity, until 6 a. m., clearing off then, and at 7 a. m. a few stratus and cirrus clouds were seen, the cirrus clouds moving from the northwest. These clouds soon disappeared and gave place to cumulus clouds, having a slow motion from the northwest, and increasing until they covered the sky. Rain to the amount of .09 fell between 3.55 p. m. and 4.30 p. m.; stratus clouds varying in amount from one to four fourths were observed from that time until last observation.

August 13.—The barometer continued sinking unevenly throughout the entire day. Mean barometer, 27.223. The thermometer was steady at 64° from 1 to 6 a. m.; advanced very slowly to a maximum of 73° at 2 p. m., and sank evenly to a minimum of 55° at midnight. Mean thermometer, 64°.5. Humidity ranged between 67 and 94 per cent. Calms and light easterly and northeasterly winds succeeded each other throughout the day. Dark, gloomy-looking stratus clouds hung over the valley, and as the morning advanced grew more heavy and threatening, took up a rapid motion from the west and approached nearer the earth. Rain began at 5.05 a. m., and fell rather heavy at times, ceasing at 9.30 a. m. Another shower fell between 10.55 and 11.10 a. m. Stratus clouds cleared off after 1 p. m. and cirrus clouds put in an appearance, moving from the southwest. Stratus, cirrus, and cumulus clouds were visible until 6.30 p. m., when they disappeared, leaving a clear sky. Whole amount of rain, .94.

August 14.—The barometer decreased irregularly to-day. Mean barometer, 27.188. The temperature has been rather unsteady, reading 53° at 1 a. m.; fell to a minimum of 51° at 3 a. m. Commenced to rise at 4 a. m. and went up suddenly twelve degrees between 6 and 7 a. m., then reading 70°, which was the maximum of the day. After this it fell off to 67° and 68°, but at noon reached the maximum point again and remained there for three hours, and then decreased to 57° at 7 p. m.; it fluctuated between 57° and 59° the rest of the day. Mean temperature, 61°.2. Calm the first three hours of the morning, and then a light northeast wind set in, changing at 9 p. m. to north, in which direction it remained until 5 p. m. and then calmed, lasting two hours. For the remainder of the day there ensued a succession of calms and light north and northeast winds. Clear at 1 a. m., but a fog began to rise from the river and sides of the mountains, hiding everything at 2 a. m. At 3 a. m. it began to rise, forming as it ascended large cumulus clouds, which covered three-fourths of the sky at 4 a. m., and took up a motion from the northwest, disappearing to the southeast. Stratus formed soon after, increased to three-fourths, and were also moving from the northwest, while the upper atmosphere grew hazy. Stratus and cumulus clouds were observed during the greater portion of the day, the cumulus moving from the northwest, while the atmosphere at station was tranquil, or passing gently from the north.

Received a set of signal equipments and three original records to-day.

August 15.—The barometrical column has been in continual motion to-day, rising and falling alternately; the last observation, however, shows an increase of .08. Mean barometer, 27.187. The temperature increased steadily until 9 a. m. and then remained motionless until noon, advancing then, attaining a maximum of 72° at 2 p. m., and sinking gradually to a minimum of 53° at midnight. Mean thermometer, 64°.5. Humidity ranged between 65 and 94 per cent. A calm at 1 a. m. was succeeded by a northerly breeze at 2 a. m., which calmed at 3.30 a. m., only to be broken by a light north wind at 4.15 a. m., which kept steady at that point until 4.30 p. m., and then calmed, remaining so at 12 p. m. Two-fourths stratus and one-fourth cumulus clouds with fair weather are reported at 1 a. m., but soon became cloudy as the stratus clouds increased and covered the entire sky at 2 a. m., having a slow motion from the northwest. A break in the stratus clouds at 4 a. m. revealed about one-fourth cumulus clouds moving slowly from the north; the stratus soon closed up again and remained so until rain began to descend at 7.10 a. m., lasting until 7.38 a. m. Stratus clouds began to disappear about 10.30 a. m., and soon were lost to view; the sky filled up with cumulus clouds which were now moving from the west. All clouds cleared away about sunset, affording a remarkably clear night.

August 16.—The barometer was steady until 4.30 a. m. and then commenced to rise, and continued until 2 p. m. For the next three hours it sank .08 and advanced from that time until 12 p. m. Mean barometer, 27.248. The thermometer declined regularly from 53° at 1 a. m. to a minimum of 49° at 6 a. m., (this being the lowest reading since the establishing of the station;) for the next three hours the column went up rapidly, reading respectively 6°, 7°, and 9° higher than the observation preceding. The maximum, 75°, was shown at 11 a. m., and, after fluctuating between that point and 73° for the next two hours, declined evenly to 63° at last observation. Mean thermometer, 63°.9. A calm existed during the early morning, but was broken by a light west wind at 5 a. m.; calmed soon after, and during the remainder of the day there were alternately calms and light north winds. A fog had settled over the valley nd hid everything at 1 a. m.; at 5 a. m. it broke up and discovered one-fourth cirro- umulus clouds moving rapidly from the west, and increasing to two-fourths by 6 a. ., and soon after disappeared. The fog as it ascended resolved itself into cumulus louds, which were visible the greater portion of the day, varying in amount from one- o four-fourths, and were moving from the west while the lower atmosphere grew azy. About 4 p. m. the cumulus clouds grew heavy, closed up, sank down the ountains, close to the earth in the valley, forming a complete veil. Rain commenced t 6.55 p. m., and ceased at 7.10 p. m., the amount being too small for measurement. tratus clouds were seen during the rest of the evening covering the entire sky.

August 17.—The barometer was almost motionless from 1 to 5 a. m. and then began o rise. At 10.30 a. m. the advance was checked, and in a short time the column began o sink, continuing until 6 p. m., and after rising for a couple of hours remained sta- ionary until midnight. Mean barometer, 27.311. The thermometer stood at 62° at a. m., but dropped to a minimum of 60° at 2 a. m., and held that point until 6 a. m.; ommenced to rise rapidly, reaching 76° at 9 a. m.; fell to 74° by 9.30 a. m., and kept hat height until 11 a. m., when it again ascended, reaching a maximum of 77° at noon. etween 1.40 and 2 p. m., while a shower of rain was falling, the column sank seven egrees. At 3 and 4 p. m. it read 72° and sank evenly to 61° at last observation. ean thermometer, 67°.1. No air was stirring, except a light north and northeast ind at 8 and 9 a. m. until 11.30 a. m., when a gentle breeze was felt from the south, emaining steady in that direction until 4.30 p. m.; it died away and continued calm t 11 p. m. The clouds have been very changeable to-day. Cirrus, cirro-cumulus, and tratus clouds are reported at 1 and 2 a. m., the upper clouds moving from the west hile the stratus clouds were progressing toward the southeast, and increased, hiding he upper atmosphere at 3 a. m., but opened soon after, revealing the upper clouds and isappearing at 8.30 a. m. Cirro-cumulus were visible until after 10 a. m. Cumulus ormed about 8.40 a. m., and went on increasing until rain descended, between 11 a. m. nd 12 m. A heavy shower fell between 1.40 and 2.45 p. m. Cumulus and cirrus louds were observed until 6.30 p. m., and then cleared away, leaving a haze in the pper regions. A few stratus clouds were visible at 8 p. m., which grew heavy, and ained for a short time, the balance of the sky being free from clouds. Whole amount f rain collected during the day, .28.

August 18.—The barometer has been constantly in motion during the day, but the uctuations did not exceed .04. Mean barometer, 27.311. The temperature was steady t 61° and 63° until 7.30 a. m., and then advanced evenly to a maximum of 75° at noon, nd after 1 p. m. fell off evenly to a minimum of 60° at 9 and 10 p. m. Mean ther- ometer, 65°. The percentage of humidity has been high, ranging from 72 per cent. o 100 per cent. A continued calm was broken by a gentle north wind at 9 a. m., which hanged to south-southeast and back to north again in the next few hours. Calmed bout sunset and remained so at last observation. Cloudy and rainy weather has been eported all day, the showers being frequent and some of them very heavy. Total ain-fall, .94.

August 19.—To-day's barometric readings are confined between 27.29 and 27.35. Mean arometer, 27.317. The thermometer sank from 61° at 1 a. m. to a minimum of 58° at a. m. and remained at that height until after 6 a. m., when it ascended evenly to a aximum of 73° at noon, and then fell off gradually to 63° at midnight. Mean ther- ometer, 65°.1. The calm reported at midnight of yesterday continued until broken y a light southwest wind at 2 a. m., calmed again at 5 a. m., and remained so for the alance of the day. The sky has been completely covered by clouds (principally tratus) during the entire day. Rain commenced shortly after sunset and continued t intervals throughout the evening. Amount of rain-fall, .54.

August 20.—The barometer was steady at 27.30 and 27.32 until 6 a. m., when it began o ascend, rising to 27.35 at 9 a. m. Here the advance was checked, the column began o sink, and at 1 p. m. read 27.30. Again for the next four hours no motion was per- eptible. After 6 p. m. it showed a tendency to increase, and was progressing slowly t 12 p. m. Mean barometer, 27.326. The temperature varied from the minimum, 61°, o 64° between 1 and 6 a. m., and then increased steadily to a maximum of 75° at oon and fell off gradually to 64° at midnight. Mean thermometer, 67°. No wind as perceptible until 10 a. m., when a light breeze was felt, varying in direction from ast to northeast and calming at 3 p. m., in which condition the atmosphere remained, ith the exception of a slight motion from the east at 8 p. m., until midnight. The eather to-day has been rather unsettled. Frequent showers fell during the day, and the evening, from 6.20 to 10.10 p. m., we had a continued light rain. Whole amount f rain-fall, .35.

August 21.—The barometer increased steadily from 1 to 9 a. m. and then decreased the same proportion until 2 p. m., after which there was not much change until 5.30 . m., when it began to ascend and continued so at last observation. Mean barometer, 7.358. The thermometer stood at 62° and 63° in the early morning and then went up o a maximum of 75° at 11 a. m., and fell off gradually to a second minimum of 62° at idnight. Mean thermometer, 67°.1. A calm prevailed during the day, broken occasionally by scarcely perceptible east winds. The weather to-day has been rathe mixed. Stratus clouds began forming about 1 a. m. and went on increasing, coverin the sky at 4 a. m. Shortly after they began to dissipate and were invisible at 7 a. m Cumulus clouds began to form as the stratus retired, increased to three-fourths, an moved slowly from the north and northwest; suddenly they changed direction an moved from the southwest; at the same time stratus clouds appeared coming from th east, but soon altered their course and moved in the contrary direction. Soon after 1 a. m. there commenced a succession of light showers and rapid changes in the clouds It appeared as if the clouds, becoming charged, would move up and precipitate thei moisture and then clear away. At 6 p. m. cirrus clouds were observed at a great heigh while below them were heavy masses of cumulus clouds. The lower atmosphere at th same time was quite hazy, and on the eastern side of the valley could be seen a lon line of fog lying close to the foot of the mountains. No clouds were seen after sunset except lower clouds, they varying in amount from one to four-fourths. Whol amount of rain, .25.

August 22.—To-day's barometric readings were confined between 27.37 and 27.42 Mean barometer, 27.393. The thermometer was stationary at 63°, until after 6 a. m. and then dropped to 62° (the minimum) at 7.14 a. m., advancing rapidly from that time attaining a maximum of 78° at 11 a. m. During the afternoon the column fluctuate between 75° and 67°, and, after sunset, declined gradually to 63° at last observation Mean temperature, 67°.5. A light variable northeast wind set in at 7.30 a. m., and continued until 3.30 p. m. Dark, heavy stratus clouds covered the entire sky during th early-morning hours. Rain began at 5.45 a. m., and ended at 6.15 a. m. Soon after th rain ceased the stratus clouds broke up, revealing one-fourth cirro-cumulus cloud moving from the west. At 8 a. m. the stratus clouds had all disappeared, and two-fourth cumulus and one-fourth cirrus clouds were observed, the cumulus clouds movin rapidly from the northeast, while the cirrus were moving with the same velocity fro the north. At 9 a. m. the cumulus clouds had diminished to one-fourth, the cirrus ha disappeared, and two-fourths cirro-cumulus occupied their place, while one-fourt stratus clouds were seen below. Soon after this time the stratus and cirro-cumulu clouds became invisible, the cumulus clouds increased and covered the sky at noon. A rain commenced at 12.30 p. m., and continued at intervals until 5.30 p. m. Heav stratus clouds hung over the station during the rest of the evening. Whole amount o rain, .11.

August 23.—No material change occurred in the readings of the barometer to-day Mean barometer, 27.434. The temperature ranged at 61° and 63° until after 6 a. m The column then began to rise and ascended to a maximum of 82° at 1 p. m. A thunderstorm now suddenly arose, and under its influence the column dropped seven degrees, reading 75° at 2 p. m. At 3 p. m. it had risen two degrees, and for the rest of the day decline evenly to a minimum of 57° at midnight. Mean thermometer, 68°.2. No wind to-day except a gentle northeast at 1 p. m., which changed to southeast at 2 p. m., and soon after calmed. The sky remained covered by stratus clouds until about 3.30 a. m., when a dense fog arose and enveloped the station, dissipating about 6.30 a. m. Cirrus and cumulus clouds were visible during the forenoon, moving from the west. At 1 p. m. the cumulus were moving from the northwest, and about one-fourth stratus clouds had formed, and were moving from the northeast. At 1.30 p. m. several loud peals of thunder were heard, and in a few minutes rain descended, lasting only a short time. The cumulus clouds changed direction to the northeast, and the stratus clouds to the southeast, the latter disappearing at 2.30 p. m., and the cumulus again moved from the northwest. At 4 p. m. they had again changed their course to northeast, and soon after no motion was perceptible. About sunset all clouds cleared away. Amount of rain-fall, .02. Worked nearly five hours to-day trying to establish communication with the summit, but could get no response.

August 24.—The barometer advanced slowly until 8.30 a. m., and then declined regularly until 6 p. m., and remained nearly stationary during the rest of the day. Mean barometer, 27.444. The temperature was steady at 55° and 56° until about sunrise; advanced rapidly after that, attaining a maximum of 81° at noon, at which height it remained until after 2 p. m., and then decreased to the minimum, 55°, at midnight. Mean thermometer, 65°.7. Calm all day. The sky remained clear until after 3 a. m., when a fog settled in the valley, covering all objects, but disappeared soon after 6 a. m. A few cumulus clouds were seen during part of the day, having a slow motion from the east and northeast. A haze was visible in the lower atmosphere during part of the afternoon, but vanished about 7 p. m., leaving a beautiful clear sky. Signal communication with the station on the summit was established to-day.

August 25.—The barometer decreased unevenly throughout the day. Mean barometer, 27.363. The thermometer read 55° at 1 a. m., but sank to a minimum of 52° at 3 and 4 a. m., and then began to rise, and went up to a maximum of 82° at 12 o'clock, (noon,) and declined unevenly to 65° at 12 p. m. Mean thermometer, 68°.4. The atmosphere has been perfectly calm all day. A fog began to form about 4.30 a. m., enveloping the station at 5 a. m., but soon dissipated, leaving, at 6 a. m., a line of fog along the river and the upper atmosphere hazy. At 8.30 a. m. cumulus clouds formed, and for the first three hours had a variable direction, sometimes moving from the west, northwest, and northeast, varied in amount from one to three-fourths, and disappearing soon after 6 p. m. Stratus formed about dark, moving steadily from the northwest, rendering the weather cloudy at times, and again clear.

August 26.—The barometer fluctuated considerably to-day, but shows a decrease at last observation. Mean barometer, 27.268. The thermometer has been very unsteady. A temperature of 65° at 1 a. m. fell to a minimum of 62° at 4 a. m., and went up rapidly in the next hour, reading 71° at 5 a. m., continued to rise unevenly until 2 p. m., when it gave a maximum of 83°, that being the highest point reached during the month. After this time the column sank irregularly until 12 p. m. Mean thermometer, 71.8°. Variable gentle winds were felt during the day from southeast, east, and northeast. Stratus clouds formed about 2.30 a. m., moving from some easterly quarter until near 5 a. m., when they changed direction to the west and soon after disappeared. Cumulus clouds were seen at 5 a. m., took up a rapid motion from a point a little north of west, and did not disappear until after 7 p. m. About one-fourth cirrus clouds were visible during the day, being greatly elevated. Stratus clouds formed again at 6 p. m., increased rapidly and covered the entire sky soon after 7 p. m., assuming a threatening appearance. Peal after peal of thunder was heard about 7.20 p. m., and shortly after rain descended, lasting over a half hour. Stratus clouds were visible during the rest of the evening. Total rain-fall, .14.

August 27.—The barometer showed a tendency to fall until about 4 a. m., when it began to rise, continuing until 11 a. m., reading at that time 27.29; for the next two hours it was steady, and then dropped .04 for the 2 p. m. observation; remained at that height until after sunset, and then began to increase and continued at last observation. Mean barometer, 27.262. The thermometer stood at the minimum, 62°, at 1 a. m. varied between that height and 63° until 6 a. m.; the column then began to expand and rose to a maximum of 81° at 1 and 2 p. m. At 3 p. m. it had began to contract and continued unevenly to a temperature of 66° at midnight. Mean thermometer, 70°.9. Calm until 6.30 a. m.; a light east wind was then noticed, but it died away soon after 2 p. m., the atmosphere remaining tranquil the rest of the day. Stratus clouds increased and covered the sky at 2 a. m., but moved off shortly after 4 a. m., leaving a few cumulus and cirrus clouds, the former moving from the west and the latter from the northwest. A fog was also observed hanging over the river, but was soon dissipated by the heat of the sun. The upper clouds were visible until after 5 p. m., when they became hidden by stratus clouds which began to form shortly after 3 p. m., and grew heavy and threatening during the evening. A heavy rain began at 10.37 p. m. and ended at 11.15 p. m., being the first rain we have had for twenty-five hours. Rain-fall, .17.

August 28.—The barometer rose steadily from 27.31 at 1 a. m. to 27.41 at 10 a. m.; remained at that height until 1 p. m., and sank to 27.37 at 3 p. m.; commenced to rise again at 4.30 p. m., and advanced to 27.44 at midnight. Mean barometer, 27.381. The extreme range of the thermometer to-day was only seven degrees. The column was steady at 65° and 64° until 10 a. m., advanced one degree for the 11 a. m., and fell off for the 12 m. Attained a maximum of 69° at 2 p. m., and contracted to 63° at 7 p. m., held that point until 11 p. m., and then dropped to a minimum of 62° at 12 p. m. Mean thermometer, 65°.4. Light winds, varying from east to south, were felt for a few minutes at different times of the day. The sky has been completely covered with dark, heavy clouds all day. A few light showers fell, amounting in all to .06 inch.

August 29.—The barometer continued to ascend to-day, but its course is marked by fluctuations, and the increase is small. Mean barometer, 27.478. The thermometer read 62° at the first observation, and sank to a minimum of 61° at 2 a. m., remained at that height until after 6 a. m., and then began to rise, going up to a maximum of 72° at 11 a. m., dropped one degree at noon, and reached the maximum again at 2 p. m.; contracted after this to 62° at midnight. Mean thermometer, 65°.7. Calm until 10.30 a. m., when a just perceptible east wind was felt, but which calmed at noon. About 12.30 p. m. this wind was again felt, but changed to southeast at 2.45 p. m., and calmed at 5.30 p. m., remaining so for the rest of the day. The sky remained covered by stratus clouds until near 10 a. m., when they cleared away revealing three-fourths cumulus clouds moving from the north. They soon changed their direction to west, and shortly after 12 m. became hidden by stratus clouds, which were moving from the southeast, and partly cleared away after 8 p. m.

August 30.—The barometer stood at 27.50 until after 4 a. m. and then rose to 27.55 at [illegible] a. m., decreased slowly to 27.46 at 4 p. m., and showed a slight increase at 12 p. m. Mean barometer, 27.500. The thermometer was steady at 62° until after 6 a. m., advanced and attained a maximum of 77° at 11 a. m., and decreased slowly to a minimum of 56° at midnight. Mean thermometer, 66°.6. A light northwest wind was stirring at noon, but soon died away. The sky was about half-covered with stratus clouds at a. m., which increased to four-fourths at next observation, and did not entirely disappear until after 8 a. m. Cumulus clouds formed after 6 a. m., having a rapid motion from the west, varied in amount from one to four-fourths, and disappeared after 8 p. m The lower atmosphere grew hazy in the afternoon.

August 31.—The barometer fluctuated between 27.49 and 27.47 until 3 a. m. and the dropped to 27.44 for the 4 a. m., and oscillated between that height and 27.37 for the res of the day. Mean barometer 27.421. The thermometer exhibited a minimum of 56° fo the first four hours and then advanced regularly to a maximum of 81° at 2 and 3 p. m., declining to the minimum again at last observation. Mean thermometer, 66°.7. Cal until 10 a. m., a light northeast wind then sprung up and continued until after 4 p. m., blew for a short time from the southeast about 5 p. m., and then calmed. Stratu clouds formed and covered the sky at 2 a. m.; sank down into the valley, forming fog at 5 a. m.; cleared off about 8 a. m., showing cirrus and cumulus clouds, the forme moving from the northeast and the latter from the west. Cirrus clouds disappeare about 10.30 a. m. and the cumulus clouds about sunset.

September 1.—The barometer has been constantly in motion during the past twenty-four hours; the midnight reading shows a decrease of .03. Mean barometer, 27.346 The thermometer read 55° at the first observation; ascended to 56° at 3 a. m., and san to a minimum of 54° at 5 a. m.; remained at this point until after 6 a. m., and the advanced rapidly to a maximum of 83° at 1 p. m., and declined unevenly to 62° a midnight. Mean thermometer, 67°.7. Calm until 10.30 a. m. A light south wind the sprung up, changing to northwest at 11.45 a. m. and died away after 1 p. m., remainin calm the rest of the day. Stratus clouds formed and covered the sky at 3 a. m., bu soon broke up and disappeared. A fog formed on the river, spread over the adjacent country, and covered objects at 5 a. m., and dissipated between 7 and 8 a. m. Cumulus, cirrus, cirro-cumulus, and cirro-stratus clouds were observed at different times o the day, but all disappeared about 11.30 p. m.

September 2.—The barometer fluctuated some to-day, but shows an increase of .04 a last observation. Mean barometer, 27.342. The thermometer fell from 60° at 1 a. m. t a minimum of 56° at 3 a. m.; attained a maximum of 83° at noon, which point it hel until after 2 p. m., and then declined to 61° at midnight. Mean thermometer 68°.7 No wind was perceptible until noon. A gentle east wind then set in, but soon changed to north and then calmed. Light west to southwest winds were observed at different times during the balance of the day. A haze was visible at first observation, but a fog arose and soon hid everything; cleared off during the morning, revealing cirrus clouds, varying in amount from one to three-fourths. Cumulus clouds formed about noon, having a slow motion from the west, which changed to north at 1 p. m. A light shower of rain fell between 3.25 and 4 p. m., the amount not being sufficient to measure. About 5 p. m. the cumulus clouds were again moving from the west; stratus clouds began forming and assumed a threatening appearance at 7 p. m.; at half-past seven, successive flashes of lightning were seen, accompanied by terrific thunder. This thunder-storm drew near the station, and at last appeared to be centered directly over it. Flashes of lightning now followed each other in rapid succession, their thunder causing the building to shake violently. At 7.45 p. m. the rain descended in torrents. The barometer rose rapidly, and soon the storm passed over. The clouds broke up, and part moved off, leaving the sky half covered. Fair weather continued until after 11 p. m., and then the stratus clouds increased and covered the entire sky. Whole amount of rain collected, .80.

September 3.—The barometer remained steady at 27.37 for the first two observations; sank .01 at 3 a. m.. and advanced to 27.40, at 6 a. m; exhibited this reading until after 11 a. m.; declined regularly to 27.31 at 4.14 p. m., and fluctuated between that height and 27.34 the rest of the day. Mean barometer, 27.361. The thermometer decreased from 60° at the commencement of the day to a minimum of 56° at 5 and 6 a. m. The column then began to rise and went up to a maximum of 80° at noon. Kept that point for four hours and then decreased evenly to 62° at 12 p. m. Mean thermometer, 68°. A light southwest wind sprung up at 9.30 a. m., veered by the south point to northeast at 11 a. m. and backed to south at noon, but soon settled steady from the southwest, in which direction it remained until after 4 p. m. and then calmed. Foggy, fair, and clear weather is alternately reported until after 8 a. m. Cumulus clouds then appeared moving slowly from the southwest, but became hidden by stratus clouds at 5 p. m. Stratus clouds broke up at 7.30 p. m., exhibiting a few cirrus and cumulus clouds, but spread and covered the sky again at midnight.

September 4.—The barometer fluctuated to-day between 27.27 and 27.37. Mean barometer 27.320. The thermometer was steady at 61° and a minimum of 60° until 7.14 a. m., increased to a maximum of 78° at 3 p. m., and declined gradually to 66° at last observation. Mean thermometer, 68°.6. A light northeast breeze set in about 1 p. m., lasted until after 5 p. m., and then changed to south; calmed at 9 p. m. Stratus clouds, varying from one to three-fourths, were visible until 4 a. m. Cumulus and cirrus clouds appeared then, but became hidden by stratus clouds at 9 a. m. A light rain fell between 10.18 and 10.55 a. m., amounting to .03. Stratus, cumulus, and cirrus clouds were observed until 8.30 p. m. when the two first disappeared, leaving a few cirrus clouds.

September 5.—The barometer stood 27.32 at the three first observations, the pressure hen increased, and the column advanced to 27.40 at 11 a. m., began to sink soon fter, and fell to 27.34 at 3 p. m.; began to rise again and went up to '27.40 at mid-ight. Mean barometer, 27.369. The thermometer has stood high all day; read 65° t 1 a. m., advanced to 73° at 3 a. m., and sank to 70° at 5 a. m.; began to rise soon fter, and attained a maximum of 81° at 2 p. m., and decreased slowly to a minimum f 61° at midnight. Mean thermometer, 72°.0. A gentle north wind set in about 1.30 . m., increased to fresh at 3 a. m., changed to northeast by 4 a. m., and calmed at 8.30 . m. A few southeast and northeast motions were perceptible during the afternoon; he remainder of the day was calm. Cumulus and cirrus clouds have been prevalent o-day; the cumulus clouds moving from the west and southwest and the cirrus clouds orthwest and south.

INSTRUMENTS, ETC.

In placing the maximum thermometer in position, the bulb accidentally became roken, rendering it useless. The remainder of the instruments are in good condition nd have worked well.

D. H. SACKETT,
Observer Signal-Service, U. S. A.

H.—*Meteorological record for May* 11, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.53	44	41	23.49	41	41	100	W.	12	.72	....	Dense fog.	....	Hidden.	....	....	....	....	....	....	Foggy.
	2 0 a. m.	23.51	44	41	23.47	41	41	100	W.	12	.72	....	Dense fog.	....	Hidden.	....	....	....	....	....	....	Foggy.
	3 0 a. m.	23.49	43	40	23.45	40	39	91	W.	16	1.28	....	Dense fog.	....	Hidden.	....	....	....	....	....	....	Foggy.
	4 0 a. m.	23.48	41	40	23.45	40	39	91	W.	16	1.28	....	Dense fog.	....	Hidden.	....	....	....	....	....	....	Foggy.
	5 0 a. m.	23.47	41	40	23.44	40	39	91	W.	16	1.28	....	Dense fog.	....	Hidden.	....	....	....	....	....	....	Foggy.
	6 0 a. m.	23.48	40	39	23.45	39	38	91	W.	16	1.28	....	Dense fog.	....	Hidden.	....	....	....	....	....	....	Foggy.
	7 14 a. m.	23.49	40	39	23.44	40	39	91	N. W.	16	1.28	....	Fog....	....	Hidden.	....	....	....	....	....	....	Foggy.
	8 0 a. m.	23.48	43	43	23.44	44	43.5	96	N. W.	16	1.28	....	Fog....	....	Hidden.	...	....	....	....	....	....	Foggy.
	9 0 a. m.	23.47	43	43	23.43	44	43	92	N. W.	14	.98	....	Fog....	....	Hidden.	....	....	....	....	....	....	Foggy.
	10 0 a. m.	23.50	55	39	23.44	40	39	91	N. W.	12	.72	...	Fog....	....	Hidden.	....	....	....	....	....	....	Foggy.
	11 0 a. m.	23.52	61	40	23.44	41	39	82	N. W.	12	.72	....	Hazy....	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	12 0 m..	23.51	58	43	23.44	44	41	76	N. W.	12	.72	251	Hazy....	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	1 0 p. m.	23.49	53	42	23.43	43	39	67	N. W.	14	.98	....	Hazy....	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	2 0 p. m.	23.49	53	44	23.43	44	41	76	N. W.	8	.32	....	Hazy....	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	3 0 p. m.	23.46	51	43	23.40	44	40	68	N. W.	12	.72	....	Hazy....	....	Cumulus	2-4	W.	....	....	....	....	Fair.
	4 14 p. m.	23.46	56	43	23.39	44	39	60	N. W.	12	.72	....	Hazy....	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	5 0 p. m.	23.46	52	42	23.40	42.5	38	62	N. W.	16	1.28	....	Hazy....	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	6 0 p. m.	23.44	48	41	23.39	42	36	50	N. W.	16	1.28	....	Hazy....	....	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	7 0 p. m.	23.44	45	36	23.40	36	33	70	N. W.	16	1.28	....	Hazy....	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	8 0 p. m.	23.46	47	33	23.41	34	31	71	N. W.	14	.98	....	Hazy....	...	Cumulus	1-4	N. W.	....	....	....	....	Fair; halo from 7.30 to 11.18.
	9 0 p. m.	23.45	41	33	23.42	34	31	71	N. W.	20	2.00	....	Hazy....	....	Cumulus	2-4	W.	....	....	....	....	Fair.
	10 0 p. m.	23.46	35	34	23.44	34	31	71	N. W.	18	1.62	....	Hazy....	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	10 39 p. m.	23.46	34	33	23.44	33	31	80	N. W.	12	.72	....	Hazy....	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	12 0 p. m.	23.46	33	32	23.44	32	31	90	N. W.	14	.98	....	0	0	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
Knoxville, Tenn.	7 0 a. m.	29.07	66	60	28.963	59	52	59	N.	8	.32	....	0	0	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	7 7 a. m.	29.07	66	60	28.963	59	52	59	N.	8	.32	....	0	0	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	11 33 a. m.	29.07	69	67	28.955	66	52	31	N.	13	.84	222	0	0	Cumulus	1-4	N. W.	....	....	....	....	Clear.
	2 0 p. m.	29.04	71	67	28.930	66	51	28	N. W.	15	1.12	....	0	0	Cumulus	3-4	W.	....	....	....	....	Fair.
	4 7 p. m.	29.02	71	71	28.900	70	53	23	N. W.	14	.98	....	0	0	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	9 0 p. m.	29.07	67	59	28.960	58	49	48	W.	8	.32	....	0	0	0	0	0	....	....	....	....	Clear.
	10 32 p. m.	29.07	69	57	28.955	56	49	56	W.	6	.18	....	0	0	0	0	0	....	....	....	....	Clear.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.45	33	32	23.43	32	31	90	N. W.	16	1.28	....	Fog in the valley.	....	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	2 0 a. m.	23.45	33	32	23.43	32	31	90	N. W.	16	1.28	....	Light fog	....	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	3 0 a. m.	23.44	33	32	23.42	32	31	90	N. W.	16	1.28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 0 a. m.	23.44	33	32	23.42	32	31	90	N. W.	16	1.28	....	Dense fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 a. m.	23.45	32	31	23.43	31	30	89	N. W.	16	1.28	....	Dense fog	....	Hidden	....	....	....	....	....	....	Foggy, frost.
	6 0 a. m.	23.46	32	31	23.44	31	30	89	N. W.	14	.98	....	Dense fog	....	Hidden	....	....	....	....	....	....	Foggy, frost.
	7 14 a. m.	23.51	46	34	23.46	35	33	80	N. W.	20	2.00	....	Hazy	....	Cumulus	1-8	N. W.	....	....	....	....	Fair.
	8 0 a. m.	23.53	47	36	23.48	37	33	62	N. W.	18	1.62	....	Hazy	....	Cumulus	1-8	N. W.	....	....	....	....	Fair.
	9 0 a. m.	23.54	43	39	23.50	39	35	64	N. W.	18	1.62	....	Hazy	....	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	10 0 a. m.	23.55	43	41	23.51	41	37	65	N. W.	14	.98	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	11 0 a. m.	23.58	53	42	23.52	43	38	59	N. W.	10	.50	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	12 0 m.	23.57	46	45	23.52	46	40	54	N. W.	8	.32	354	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	1 0 p. m.	23.58	46	46	23.53	46	40	54	N. W.	12	.72	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Fair.
	2 0 p. m.	23.58	48	48	23.53	48	41	49	N. W.	16	1.28	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	3 0 p. m.	23.58	48	49	23.53	50	42	45	N. W.	16	1.28	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	4 14 p. m.	23.57	49	48	23.52	48	41	49	N. W.	12	.72	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	5 0 p. m.	23.57	50	49	23.52	49.5	42	48	N. W.	12	.72	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	6 0 p. m.	23.57	50	49	23.52	49	42	50	N. W.	12	.72	....	Hazy	....	Cir.-cum	1-4	N. W.	....	....	....	....	Fair.
	7 0 p. m.	23.57	47	45	23.52	45	40	61	W.	18	1.62	....	Hazy	....	Cir. & cu.	1-4	N.	....	....	....	....	Fair.
	8 0 p. m.	23.58	45	39	23.54	39	38	91	W.	22	2.42	....	0	0	Cu.-strat	4-4	W.	7.40 p. m.	....	.15	....	Heavy rain, thunder-storm.
	9 0 p. m.	23.57	42	40	23.53	40	38	82	W.	22	2.42	....	0	0	Cumulus	2-4	N. W.	....	8.32 p. m.	.23	....	Fair.
	10 0 p. m.	23.59	43	40	23.55	41	39	82	W.	26	3.38	....	Light fog in the valley.		Cumulus	2-4	N. W.	....	....	....	....	Fair.
	10 39 p. m.	23.58	43	42	23.54	42	40	83	W.	24	2.88	....	Nimbus	2-4	Cumulus	2-4	W.	10.30 p. m.	....	.03	....	Light rain; halo from 8.45 to 10.16.
	12 0 p. m.	23.55	42	42	23.51	42	40	83	S. W.	24	2.88	....	0	0	Cumulus	3-4	W.	....	10.55 p. m.	.04	....	Clearing.
Knoxville, Tenn.	7 0 a. m.	29.12	63	52	29.021	51	48	78	S.	4	.08	....	0	0	0	0	0	....	....	....	....	Clear.
	7 7 a. m.	29.12	63	52	29.021	51	48	78	S.	4	.08	....	0	0	0	0	0	....	....	....	....	Clear.
	11 33 a. m.	29.10	68	71	28.985	70	56	33	S.	15	1.12	207	0	0	0	0	0	....	....	....	....	Clear.
	2 0 p. m.	29.02	73	77	28.895	76	58	28	S. W.	22	2.42	....	0	0	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	4 7 p. m.	28.98	75	79	28.850	78	60	29	S.	11	.60	....	0	0	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	9 0 p. m.	29.02	70	66	28.902	65	56	53	S. W.	8	.32	....	Stratus	2-4	Cumulus	1-4	N. W.	....	....	....	....	Cloudy.
	10 33 p. m.	29.04	70	63	28.922	62	57	71	S. W.	7	.24	....	0	0	Cumulus	2-4	N. W.	7 p. m.	7.30 p. m.	.05	....	Fair.

Meteorological record for May 13, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.53	42	42	23.49	42	40	83	W.	26	3.38	....	Hazy ...	......	Cirrus ..	1-4	W.	......	......	....	....	Fair.
	2 0 a. m.	23.52	42	42	23.48	42	40	83	W.	26	3.38	....	Hazy ...	......	Cirrus ..	1-4	W.	......	......	....	....	Fair.
	3 0 a. m.	23.52	42	42	23.48	42	40	83	W.	32	5.12	....	Hazy ...	......	Cirrus ..	1-4	W.	......	......	....	....	Fair.
	4 0 a. m.	23.51	42	42	23.47	42	40	83	N. W.	34	5.78	....	Cumulus	1-4	Cirrus ..	1-4	0	......	......	....	....	Fair.
	5 0 a. m.	23.51	42	42	23.47	42	40	83	N. W.	32	5.12	....	Hazy ...	......	Cir.-cum	2-4	W.	......	......	....	....	Fair.
	6 0 a. m.	23.52	42	42	23.48	42	40	83	W.	28	3.92	....	Hazy ...	......	Cir. & cu	1-4	W.	......	......	....	....	Fair.
	7 14 a. m.	23.54	43	43	23.50	43	40	75	N. W.	28	3.92	....	Hazy ...	......	Cir. & cu	1-4	N. W.	......	......	....	....	Fair.
	8 0 a. m.	23.54	44	44	23.50	44	41	76	W.	28	3.92	....	Hazy ...	......	Cirrus ..	1-4	N. W.	......	......	....	....	Fair.
	9 0 a. m.	23.55	45	45	23.51	45	41	68	N. W.	26	3.38	....	Hazy ...	......	Cirrus ..	2-4	N. W.	......	......	....	....	Fair.
	10 0 a. m.	23.55	47	47	23.50	47	42	62	N. W.	28	3.92	....	Hazy ...	......	Cirrus ..	2-4	N. W.	......	......	....	....	Fair.
	11 0 a. m.	23.56	48	49	23.51	49	42	50	N. W.	22	2.42	....	Hazy ...	......	Cir. & cu	2-4	N. W.	......	......	....	....	Fair.
	12 0 m.	23.59	51	52	23.53	52	44	47	W.	20	2.00	544	Hazy ...	......	Cir. & cu	1-4	W.	......	......	....	....	Fair.
	1 0 p. m.	23.60	55	55	23.54	55	46	44	W.	16	1.28	....	Hazy ...	......	Cumulus	1-4	N. W.	......	......	....	....	Fair.
	2 0 p. m.	23.60	55	55	23.54	55	46	44	W.	12	.72	....	Hazy ...	......	Cumulus	2-4	W.	......	......	....	....	Fair.
	3 0 p. m.	23.58	56	58	23.51	58	47	37	W.	10	.50	....	Hazy ...	......	Cumulus	2-4	W.	......	......	....	....	Fair.
	4 14 p. m.	23.55	56	56	23.48	56	45	35	S. W.	12	.72	....	Hazy ...	......	Cumulus	2-4	W.	......	......	....	....	Fair.
	5 0 p. m.	23.54	56	57	23.47	57	46	36	S. W.	12	.72	....	Hazy ...	......	Cumulus	2-4	S. W.	......	......	....	....	Fair.
	6 0 p. m.	23.53	54	53	23.47	53	45	48	W.	12	.72	....	Hazy ...	......	Cir., cum	3-4	N. W.	......	......	....	....	Fair.
	7 0 p. m.	23.53	51	49	23.47	49	41	44	N. W.	8	.32	....	Hazy ...	......	Cumulus	3-4	W.	......	......	....	....	Fair.
	8 0 p. m.	23.53	51	46	23.47	46	42	69	W.	12	.72	...	0	0	Cumulus	4-4	W.	......	......	....	....	Cloudy.
	9 0 p. m.	23.51	49	45	23.46	45	42	76	W.	24	2.88	....	0	0	Cumulus	4-4	W.	......	......	....	....	Cloudy.
	10 0 p. m.	23.50	48	45	23.45	45	42	76	N. W.	24	2.88	....	0	0	Cumulus	4-4	W.	......	......	....	....	Cloudy.
	10 39 p. m.	23.50	47	44	23.44	44	41	76	N. W.	24	2.88	....	0	0	Cumulus	4-4	N. W.	......	......	....	....	Cloudy.
	12 0 p. m.	23.49	46	43	23.44	43	41	83	N. W.	20	2.00	....	Stratus .	4-4	Hidden .	....	......	......	......	....	....	Cloudy.
Knoxville, Tenn.	7 0 a. m.	29.05	68	63	28.938	62	55	61	S.	10	.50	....	0	0	0	0	0	......	......	....	....	Clear.
	7 7 a. m.	29.05	68	64	28.938	63	55	61	S.	10	.50	....	0	0	0	0	0	......	......	....	....	Clear.
	11 33 a. m.	29.02	73	77	28.895	76	61	36	S.	13	.84	253	0	0	Cumulus	2-4	W.	......	......	....	....	Fair.
	2 0 p. m.	28.96	76	81	28.827	80	60	24	S. W.	13	.84	....	0	0	Cumulus	4-4	W.	......	......	....	....	Cloudy.
	4 7 p. m.	28.91	75	78	28.780	77	58	27	S.	12	.72	....	Stratus .	2-4	Cumulus	2-4	0	......	......	....	....	Cloudy.
	9 0 p. m.	28.96	72	71	28.837	70	57	40	S.	14	.98	....	Stratus .	4-4	Hidden .	....	......	......	......	....	....	Threatening.
	10 32 p. m.	29.00	72	67	28.877	67	58	55	S. W.	10	.50	....	Stratus .	4-4	Hidden .	....	......	......	......	....	....	Threatening.

Meteorological record for May 14, 1875.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 47	46	42	23. 42	42	41	91	N. W.	22	2. 42	....	Stratns	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	2 0 a. m.	23. 48	46	42	23. 43	42	41	91	N. W.	16	1. 28	...	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	3 0 a. m.	23. 47	46	41	23. 42	41	40	91	W.	15	1. 12	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 0 a. m.	23. 47	45	40	23. 43	40	39	91	W.	16	1. 28	....	Stratus	2-4	Cumulus	2-4	E.	....	....	....	....	Cloudy.
	5 0 a. m.	23. 47	44	40	23. 43	40	39	91	W.	17	1. 28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 a. m.	23. 47	44	39	23. 43	39	38	91	W.	12	. 72	....	Fog	....	Hidden	....	....	5.40 a. m.	....	. 01	....	Light rain.
	7 14 a. m.	23. 47	44	39	23. 43	39	38	91	W.	17	1. 44	....	Stratus	3-4	Cumulus	1-4	E.	....	6.12 a. m.	. 01	....	Cloudy.
	8 0 a. m.	23. 46	43	40	23. 42	40	39	91	W.	18	1. 62	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	9 0 a. m.	23. 46	42	41	83. 42	41	40	91	W.	14	. 98	....	Dense fog	....	Hidden	....	....	8.18 a. m.	....	. 02	....	Light rain.
	10 0 a. m.	23. 46	42	42	23. 43	42	41	91	S. W.	14	. 98	....	Nimbus	4-4	Hidden	....	....	....	....	. 03	....	Light rain.
	11 0 a. m.	23. 46	43	43	23. 42	43	42	92	S. W.	12	. 72	....	Stratus	4-4	Hidden	....	....	....	10.43 a. m.	. 02	....	Cloudy.
	12 0 m	23. 43	43	47	23. 39	47	46	92	S. W.	12	. 72	376	Stratus	3-4	Cumulus	2-4	S. W.	....	....	....	....	Clearing.
	1 0 p. m.	23. 43	44	47	23. 39	47	46	92	S. W.	8	. 32	....	0	0	Cumulus	4-4	S. W.	....	....	....	....	Cloudy.
	2 0 p. m.	23. 42	44	44	23. 38	44	43	92	S. W.	8	. 32	....	Dense fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 p. m.	23. 40	43	43	23. 36	43	43	100	S.	8	. 32	....	Dense fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 14 p. m.	23. 37	43	43	23. 33	43	43	100	S. E.	4	. 08	....	Dense fog	....	Hidden	....	....	4.00 p. m.	....	. 01	....	Light rain.
	5 0 p. m.	23. 37	43	43	23. 33	43	43	100	S. E.	5	. 12	....	Dense fog	....	Hidden	....	....	....	4.35 p. m.	....	....	Foggy.
	6 0 p. m.	23. 36	43	43	23. 32	43	43	100	S.	4	. 08	....	Dense fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 0 p. m.	23. 36	43	40	23. 32	40	40	100	S. E.	4	. 08	....	Stratus	3-4	Cirrus	1-4	0	....	....	....	....	Cloudy.
	8 0 p. m.	23. 36	43	41	23. 32	41	40	91	E.	8	. 32	....	Stratus	3-4	Cirrus	1-4	0	....	....	....	....	Cloudy.
	9 0 p. m.	23. 36	44	41	23. 32	41	40	91	S. E.	12	. 72	....	Fog in valley		Cirrus	2-4	0	....	....	....	....	Fair.
	10 0 p. m.	23. 40	46	40	23. 35	40	39	91	S. E.	10	. 50	....	Fog in valley		Cirrus	1-4	S. E.	....	....	....	....	Fair.
	10 39 p. m.	23. 38	45	40	23. 34	40	40	100	S. E.	10	. 50	....	Dense fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 p. m.	23. 36	45	40	23. 32	40	40	100	S. E.	9	. 40	....	Nimbus	4-4	Hidden	....	....	11.06 p. m.	....	. 01	....	Light rain.
Knoxville, Tenn.	7 0 a. m.	28. 90	68	61	28. 788	60	57	85	N. E.	5	. 12	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	7 7 a. m.	28. 90	68	61	28. 788	60	57	85	N. E.	5	. 12	...	Stratus	4-4	Hidden	....	....	In night.	....	. 01	....	Cloudy.
	11 33 a. m.	28. 86	73	70	22. 735	69	60	56	N. W.	4	. 08	206	Hazy	....	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	2 0 p. m.	28. 82	74	72	28. 692	71	60	49	S. W.	6	. 18	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	4 7 p. m.	28. 80	74	71	28. 672	70	59	50	W.	3	. 04	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Threatening.
	9 0 p. m.	28. 78	70	65	28. 662	64	58	67	S. W.	8	. 32	....	Stratus	3-4	Hazy	....	....	....	....	....	....	Cloudy.
	10 32 p. m.	28. 82	70	62	28. 702	62	58	78	W.	4	. 08	....	Stratus	2-4	0	0	0	....	....	....	....	Cloudy.

Meteorological record for May 15, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.36	45	40	23.32	40	40	100	S. E.	6	.18	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 a. m.	23.35	45	40	23.31	40	39	91	S.	6	.18	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 a. m.	23.33	45	39	23.29	39	38	91	S. E.	5	.12	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 0 a. m.	23.31	45	39	23.27	39	38	91	S. E.	5	.12	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 a. m.	23.31	45	39	23.27	39	38	91	S. E.	11	.60	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 a. m.	23.31	44	40	23.27	40	40	100	S. E.	10	.50	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 14 a. m.	23.32	44	41	23.28	41	41	100	S. E.	16	1.28	....	Nimbus	4-4	Hidden	....	....	6.10 a. m.	....	.06	....	Light rain.
	8 0 a. m.	23.33	43	41	23.29	41	41	100	E.	16	1.28	....	Nimbus	4-4	Hidden	....	....	....	....	.04	....	Light rain.
	9 0 a. m.	23.34	43	42	23.30	42	42	100	E.	14	.98	....	Nimbus	4-4	Hidden	....	....	....	....	.03	....	Light rain.
	10 0 a. m.	23.35	43	42	23.31	42	42	100	E.	14	.98	....	Nimbus	4-4	Hidden	....	....	....	....	.06	....	Light rain.
	11 0 a. m.	23.37	44	42	23.33	42	42	100	E.	12	.72	....	Nimbus	4-4	Hidden	....	....	....	....	.09	....	Light rain.
	12 0 m.	23.36	44	42	23.32	42	42	100	E.	8	.32	209	Nimbus	4-4	Hidden	....	....	....	....	.05	....	Light rain.
	1 0 p. m.	23.36	46	42	23.31	42	42	100	E.	12	.72	....	Nimbus	4-4	Hidden	....	....	....	....	.05	....	Light rain.
	2 0 p. m.	23.38	47	45	23.33	45	45	100	E.	5	.12	....	Nimbus	4-4	Hidden	....	....	....	....	.02	....	Light rain.
	3 0 p. m.	23.37	46	46	23.32	46	46	100	E.	4	.08	....	Nimbus	4-4	Hidden	....	....	....	....	.03	....	Light rain.
	4 14 p. m.	23.37	45	44	23.33	44	44	100	E.	1	.01	....	Nimbus	4-4	Hidden	....	....	....	....	.03	....	Light rain.
	5 0 p. m.	23.38	45	45	23.34	45	45	100	N. W.	1	.01	....	Dense fog	....	Hidden	....	....	....	4.45 p. m.	.01	....	Foggy.
	6 0 p. m.	23.39	46	43	23.34	43	43	100	W.	1	.01	....	Dense fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 0 p. m.	23.41	46	43	23.36	43	43	100	W.	6	.18	....	Dense fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 p. m.	23.44	53	43	23.38	43	42	92	W.	4	.08	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 p. m.	23.44	56	43	23.37	43	43	100	N. W.	6	.18	....	Dense fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 p. m.	23.45	52	42	23.39	42	42	100	N. W.	8	.32	....	Dense fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 39 p. m.	23.45	52	42	23.39	42	42	100	N.	8	.32	....	Dense fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 p. m.	23.43	49	42	23.38	42	42	100	N.	8	.32	....	Dense fog	....	Hidden	....	....	....	....	....	....	Foggy.
Knoxville, Tenn.	7 0 a. m.	28.76	68	60	28.648	59	56	81	S. E.	4	.08	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	7 7 a. m.	28.76	68	60	28.648	59	56	81	S. E.	4	.08	....	Stratus	4-4	Hidden	....	....	9.00 a. m.	10.35 a. m.	.01	....	Cloudy.
	11 33 a. m.	28.80	71	65	28.680	64	58	67	E.	9	.40	.98	Stratus	4-4	Hidden	....	....	4.15 p. m.	4.45 p. m.	.10	....	Cloudy.
	2 0 p. m.	28.80	72	71	28.677	70	62	61	S.	5	.12	....	Light haze	....	Cir.-cu.	3-4	S. W.	....	....	....	....	Clearing.
	4 7 p. m.	28.80	72	67	28.677	66	62	78	N. E.	4	.08	....	Nimbus	4-4	Hidden	....	....	....	....	....	....	Light rain.
	9 0 p. m.	28.88	69	63	28.765	62	61	91	N. W.	4	.08	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	10 32 p. m.	28.89	70	63	28.772	62	60	88	0	0	0	....	Stratus	2-4	Hazy	....	....	6.45 p. m.	7.30 p. m.	.06	....	Clearing.

Meteorological record for May 16, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 42	48	42	23. 37	42	42	100	N.	10	. 50	....	Fog	......	Hidden .	....	......	....	....	....	....	Foggy.
	2 0 a. m.	23. 41	47	41	23. 36	41	41	100	N.	10	. 50	....	Light fog	......	Cumulus	1-4	0	....	....	....	....	Foggy.
	3 0 a. m.	23. 42	45	40	23. 38	40	40	100	N. W.	15	1. 12	....	Fog	......	Hidden .	....	......	....	....	....	....	Foggy.
	4 0 a. m.	23. 43	45	40	23. 39	40	40	100	N. W.	11	. 60	....	Fog	......	Hidden .	....	......	....	....	....	....	Foggy.
	5 0 a. m.	23. 43	45	40	23. 39	40	40	100	N. W.	11	. 60	....	Dense fog	......	Hidden .	....	......	....	....	....	....	Foggy.
	6 0 a. m.	23. 46	50	41	23. 41	41	40	91	N. W.	12	. 72	....	Fog	......	Hidden .	....	......	....	....	....	....	Foggy.
	7 14 a. m.	23. 50	49	41	23. 45	41	40	91	N.	10	. 50	....	Fog	......	Hidden .	....	......	....	....	....	....	Foggy.
	8 0 a. m.	23. 51	48	44	23. 46	44	43	92	N. E.	16	1. 28	....	Fog in the	valley	Cumulus	2-4	N. E.	....	....	....	....	Fair.
	9 0 a. m.	23. 54	51	46	23. 48	46	45	92	N.	12	. 72	....	Cumulus.	1-4	Cumulus	2-4	N.	....	....	....	....	Fair.
	10 0 a. m.	23. 55	52	46	23. 49	46	45	92	N. W.	8	. 32	....	0	0	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	11 0 a. m.	23. 57	53	49	23. 51	49	46	78	N. W.	8	. 32	....	Hazy....	......	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	12 0 m...	23. 58	53	50	23. 52	50	47	79	W.	4	. 08	199	Hazy....	......	Cumulus	2-4	W.	....	....	....	....	Fair.
	1 0 p. m.	23. 60	59	51	23. 53	51	47	72	N.	8	. 32	....	Hazy....	......	Cumulus	4-4	N.	....	....	....	....	Cloudy.
	2 0 p. m.	23. 60	58	50	23. 53	50	46	72	N. W.	6	. 18	....	Hazy....	......	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	3 0 p. m.	23. 59	56	53	23. 52	53	47	61	W.	6	. 18	....	Hazy....	......	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	4 14 p. m.	23. 59	53	49	23. 53	49	46	78	N. W.	12	. 72	....	Hazy...	......	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	5 0 p. m.	23. 59	51	48	23. 53	48	46	85	N. W.	11	. 60	....	Hazy....	......	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	6 0 p. m.	23. 59	58	47	23. 52	47	45	85	N. W.	8	. 32	....	Hazy....	......	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	7 0 p. m.	23. 60	55	47	23. 54	47	45	85	N. W.	8	. 32	....	Hazy....	......	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	8 0 p. m.	23. 60	52	46	23. 54	46	45	92	N. W.	10	. 50	....	Hazy....	......	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	9 0 p. m.	23. 60	60	45	23. 53	45	44	91	N. W.	11	. 60	....	Hazy...	......	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	10 0 p. m.	23. 63	59	43	23. 56	43	42	92	N. W.	12	. 72	....	Stratus..	1-4	0	0	0	....	....	....	....	Fair.
	10 39 p. m.	23. 64	57	42	23. 57	42	41	91	N. W.	12	. 72	....	0	0	0	0	0	....	....	....	....	Clear.
	12 0 p. m.	23. 60	53	41	23. 54	41	40	91	W.	14	. 98	...	0	0	Cumulus	1-4	W.	....	....	....	....	Fair.
Knoxville, Tenn.	7 0 a. m.	28. 98	68	62	28. 868	61	60	91	S. W.	2	. 02	....	Stratus..	3-4	Cumulus	2-4	N. W.	....	....	....	....	Cloudy.
	7 7 a. m.	28. 98	68	62	28. 868	61	60	91	S. W.	2	. 02	....	Stratus..	3-4	Cumulus	2-4	N. W.	....	....	....	....	Cloudy.
	11 33 a. m.	29. 04	74	72	28. 912	71	62	60	W.	4	. 08	77	Hazy....	......	Cumulus	3-4	N. W.	....	....	....	....	Fair.
	2 0 p. m.	29. 03	75	75	28. 900	74	63	51	W.	3	. 04	....	Stratus..	2-4	Cumulus	2-4	0	....	....	....	....	Cloudy.
	4 7 p. m.	29. 02	76	77	28. 987	76	64	48	W.	3	. 04	....	Hazy....	......	Cumulus	3-4	0	....	....	....	....	Fair.
	9 0 p. m.	29. 06	72	68	28. 937	67	57	50	E.	4	. 08	....	Hazy....	......	0	0	0	....	....	....	....	Clear.
	10 32 p. m.	29. 09	72	66	28. 967	65	55	50	N.	8	. 32	....	Stratus..	1-4	0	0	0	....	....	....	....	Clear.

Meteorological record for May 17, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 59	49	40	23. 54	40	38	82	N. W.	18	1. 62	....	0	0	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	2 0 a. m.	23. 58	47	40	23. 53	40	38	82	N. W.	18	1. 62	....	Light fog	......	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	3 0 a. m.	23. 59	48	40	23. 54	40	38	82	N. W.	12	. 72	....	Hazy....	......	Cumulus	2-4	N.	....	....	....	....	Fair.
	4 0 a. m.	23. 60	48	40	23. 55	40	38	82	N. W.	15	1. 12	....	Hazy....	......	Cirrus ..	2-4	0	....	....	....	....	Fair.
	5 0 a. m.	23. 60	49	39	23. 55	39	37	82	W.	20	2. 00	....	Hazy....	......	Cirrus...	2-4	0	....	....	....	....	Fair.
	6 0 a. m.	22. 60	46	40	23. 56	40	38	82	W.	18	1. 62	....	Hazy....	......	Cirrus ..	2-4	0	....	....	....	....	Fair.
	7 14 a. m.	23. 62	50	42	23. 57	42	40	83	W.	18	1. 62	....	Hazy....	......	Cirrus...	1-4	0	....	....	....	....	Fair.
	8 0 a. m.	23. 63	49	44	23. 58	44	41	76	W.	12	. 72	....	Hazy....	......	Cirrus...	1-4	0	....	....	....	....	Fair.
	9 0 a. m.	23. 63	40	49	23. 58	49	44	64	W.	16	1. 28	....	Hazy....	......	Cirrus...	1-4	0	....	....	....	....	Fair.
	10 0 a. m.	23. 64	53	54	23. 58	54	46	49	N. W.	4	. 08	....	Hazy....	......	Cumulus	1-4	E.	....	....	....	....	Fair.
	11 0 a. m.	23. 66	54	55	23. 60	55	47	50	N. W.	6	. 18	....	Hazy....	......	Cumulus	1-4	E.	....	....	....	....	Fair.
	12 0 m...	23. 67	55	55	23. 61	55	52	80	N. W.	6	. 18	281	Hazy....	......	Cumulus	1-4	W.	....	....	....	....	Fair.
	1 0 p. m.	23. 67	58	57	23. 60	57	48	46	W.	6	. 18	....	Hazy....	......	Cumulus	1-4	S.	....	....	....	....	Fair.
	2 0 p. m.	23. 68	61	59	28. 60	59	48	38	W.	7	. 24	....	Hazy....	......	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	3 0 p. m.	23. 68	62	58	23. 60	58	47	37	W.	6	. 18	....	Hazy....	......	Cumulus	1-4	0	....	....	....	....	Fair.
	4 14 p. m.	23. 68	63	60	23. 60	60	49	39	S.W.	8	. 32	....	Hazy....	......	Cir. & cu.	2-4	0	....	....	....	....	Fair.
	5 0 p. m.	23. 67	61	58	23. 59	58	47	37	S.W.	8	. 32	....	Hazy....	......	Cir. & cu.	2-4	0	....	....	....	....	Fair.
	6 0 p. m.	23. 68	59	57	23. 61	57	45	30	W.	8	. 32	....	Hazy....	......	Cirrus...	1-4	0	....	....	....	....	Fair.
	7 0 p. m.	23. 69	58	49	23. 62	49	43	57	W.	7	. 24	....	Hazy....	......	Cirrus...	1-4	0	....	....	....	....	Fair.
	8 0 p. m.	23. 69	63	46	23. 61	46	44	84	S.W.	8	. 32	....	Hazy....	......	Cirrus...	2-4	N. W.	....	....	....	....	Fair.
	9 0 p. m.	23. 69	61	46	23. 61	46	44	84	S.	6	. 18	....	Fog	......	Cirrus...	3-4	0	....	....	....	....	Cloudy.
	10 0 p. m.	23. 69	61	47	23. 61	47	45	85	S.	4	. 08	....	Light fog	......	Cirrus...	3-4	0	....	....	....	....	Cloudy.
	10 39 p. m.	23. 69	60	46	23. 62	46	44	84	S.	5	. 12	....	Light fog	......	Cirrus...	3-4	0	....	....	....	....	Cloudy.
	12 0 p. m.	23. 68	59	46	23. 61	46	43	77	S. E.	6	. 18	....	0	0	Cirrus...	2-4	0	....	....	....	....	Fair.
Knoxville, Tenn..	7 0 a. m.	29. 15	67	58	29. 040	57	53	75	S. E.	7	. 24	....	Hazy....	......	Cirrus...	1-8	0	....	....	....	....	Clear.
	7 7 a. m.	29. 15	67	59	29. 040	58	54	75	S. E.	7	. 24	....	Hazy....	......	Cirrus...	1-8	0	....	....	....	....	Fair.
	11 33 a. m.	29. 16	73	71	29. 035	70	56	35	E.	3	. 04	106	Hazy....	......	Cirrus...	1-8	0	....	....	....	....	Fair.
	2 0 p. m.	29. 10	73	77	28. 975	76	60	34	E.	4	. 08	....	Hazy....	......	Cir.-cum.	1-4	N. W.	....	....	....	....	Fair.
	4 7 p. m.	29. 08	75	80	28. 950	79	60	26	E.	4	. 08	....	Hazy....	......	Cirrus...	1-8	0	....	....	....	....	Fair.
	9 0 p. m.	29. 06	71	71	28. 940	70	55	32	N. W.	8	. 32	....	0	0	Hazy	....	0	....	....	....	....	Fair.
	10 32 p. m.	29. 06	73	68	28. 935	67	53	32	N. W.	4	. 08	....	0	0	Cirrus...	2-4	0	....	....	....	....	Fair.

Meteorological record for May 18, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM. Attached.	THERM. Exposed.	Corrected barometer.	HYGROM. Dry bulb.	HYGROM. Wet bulb.	Relative humidity.	WIND. Direction.	WIND. Velocity per hour.	WIND. Pressure per sq. ft.	WIND. Daily velocity.	LOWER CLOUDS. Kind.	LOWER CLOUDS. Amount.	UPPER CLOUDS. Kind.	UPPER CLOUDS. Amount.	UPPER CLOUDS. Direction, (moving from—)	RAIN OR SNOW. Commen'd.	RAIN OR SNOW. Ended.	Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.66	58	45	23.59	45	42	76	S. E.	6	.18	...	0	0	Cirrus ..	2-4	...	...	...	...	...	Fair.
	2 0 a. m.	23.65	56	45	23.58	45	43	84	S. E.	8	.32	...	Light fog	...	0	0	0	...	...	...	...	Foggy.
	3 0 a. m.	23.65	54	44	23.59	44	43	92	S. E.	12	.72	...	Fog	...	Hidden .	...	...	...	...	...	...	Foggy.
	4 0 a. m.	23.64	52	43	23.58	43	42	92	S. E.	12	.72	...	0	0	Cirrus ..	3-4	N. W.	...	...	...	...	Cloudy.
	5 0 a. m.	23.64	52	44	23.58	44	43	92	S. E.	20	2.00	...	Light fog	...	Cirrus ..	3-4	N.	...	...	...	...	Cloudy.
	6 0 a. m.	23.67	51	45	23.61	45	45	100	S. E.	16	1.28	...	Fog	...	0	0	0	...	...	...	...	Foggy.
	7 14 a. m.	23.67	51	48	23.61	48	46	85	W.	8	.32	...	Light fog	...	Cirrus ..	1-4	...	...	...	...	...	Fair.
	8 0 a. m.	23.68	51	50	23.62	50	48	86	W.	9	.40	...	Hazy ...	...	Cirrus ..	3-4	...	...	...	...	...	Cloudy.
	9 0 a. m.	23.70	57	56	23.63	56	50	63	W.	8	.32	...	Hazy ...	...	Cirrus ..	2-4	...	...	...	...	...	Fair.
	10 0 a. m.	23.70	57	53	23.63	53	49	73	W.	9	.40	...	Hazy ...	...	Cumulus	3-4	W.	...	...	...	...	Cloudy.
	11 0 a. m.	23.71	57	52	23.64	52	48	73	W.	11	.60	...	Hazy ...	...	Cumulus	3-4	W.	...	...	...	...	Cloudy.
	12 0 m ..	23.71	62	53	23.63	53	49	73	W.	10	.50	203	Smoky ..	...	Cumulus	3-4	W.	...	...	...	...	Cloudy.
	1 0 p. m.	23.71	65	55	23.62	55	50	68	N. W.	7	.24	...	Smoky .	...	Cumulus	3-4	N. W.	...	...	...	...	Cloudy.
	2 0 p. m.	23.69	63	54	23.61	54	49	67	W.	9	.40	...	Stratus	2-4	Cumulus	2-4	W.	...	...	...	...	Threatening.
	3 0 p. m	23.68	59	52	23.61	52	50	86	W.	14	.98	...	Smoky ..	...	Cumulus	3-4	W.	...	...	...	...	Cloudy.
	4 14 p. m.	23.68	59	51	23.61	51	49	86	W.	5	.12	...	Stratus	3-4	Cumulus	2-4	...	...	...	...	...	Cloudy.
	5 0 p. m.	23.68	58	52	23.61	52	50	66	W.	5	.12	...	Stratus .	1-4	Cumulus	2-4	W.	...	...	...	...	Cloudy.
	6 0 p. m.	23.69	61	53	23.61	53	50	80	W.	3	.04	...	Stratus	4-4	Hidden .	...	...	...	...	...	...	Cloudy.
	7 0 p. m.	23.68	57	51	23.61	51	50	93	S.	8	.32	...	Fog	...	Hidden .	...	...	6.15 p. m	6.48 p. m.	.01	...	Foggy.
	8 0 p. m.	23.68	63	50	23.60	50	50	100	S.	12	.72	...	Fog	...	Hidden .	...	...	...	...	...	...	Foggy.
	9 0 p. m.	23.70	62	50	23.62	50	50	100	S.W.	16	1.28	...	Fog	...	Hidden .	...	...	...	...	...	...	Foggy.
	10 0 p. m.	23.70	59	49	23.63	49	49	100	S.W.	20	2.00	...	Fog	...	Hidden .	...	...	...	...	...	...	Foggy.
	10 39 p. m.	23.68	58	50	23.61	50	50	100	S.	20	2.00	...	Fog	...	Hidden .	...	...	...	...	...	...	Foggy.
	12 0 p. m.	23.68	58	50	23.61	50	50	100	S.W.	18	1.62	...	Fog	...	Hidden .	...	...	...	...	...	49.7	Foggy.
Knoxville, Tenn.	7 0 a. m.	29.12	68	60	29.008	59	51	53	N. E.	6	.18	...	Stratus .	4-4	Hidden .	...	...	...	...	...	...	Cloudy.
	7 7 a. m.	29.12	68	61	29.008	60	50	46	N. E.	6	.18	..	Stratus .	4-4	Hidden	..	...	...	...	...	...	Cloudy.
	11 33 a. m,	29.12	75	73	28.960	74	61	42	W.	6	.18	115	Hazy ...	...	Cumulus	4-4	W.	...	...	...	...	Cloudy.
	2 0 p. m.	29.07	76	76	28.937	75	62	44	N.. W	9	.40	...	Hazy ...	...	Cumulus	4-4	W.	...	...	...	...	Cloudy.
	4 7 p. m.	29.04	78	81	28.902	80	67	47	N. E.	4	.08	...	Hazy ...	...	Cirrus ..	4-4	W.	...	...	...	...	Cloudy.
	9 0 p. m.	29.04	73	72	28.915	71	63	62	S.	8	.32	...	Hazy ..	...	Cumulus	2-4	W.	...	...	...	...	Fair.
	10 32 p. m.	29.03	76	69	28.897	68	62	60	N. E.	3	.04	...	Hazy ...	...	Cirrus ..	1-4	0	...	...	...	...	Fair.

Meteorological record for May 19, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C..	1 0 a. m.	23. 66	57	50	23. 59	50	50	100	S. W.	18	1. 62	....	Fog	...	Hidden	....	......	....	....	....	....	Foggy.
	2 0 a. m.	23. 65	57	49	23. 58	49	49	100	S. W.	24	2. 88	...	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	3 0 a. m.	23. 63	56	49	23. 56	49	48. 5	96	S. W.	28	3. 92	....	Stratus	4-4	Hidden	....	......	....	....	....	....	Cloudy.
	4 0 a. m.	23. 61	55	49	23. 55	49	48. 5	96	S. W.	26	3. 12	...	Stratus	4-4	Hidden	....	......	....	....	....	....	Cloudy.
	5 0 a. m.	23. 64	53	49	23. 58	49	49	100	S. W.	24	2. 88	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	6 0 a. m.	23. 62	52	49	23. 56	49	49	100	S. W.	20	2. 00	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	7 14 a. m.	23. 62	52	50	23. 56	50	50	100	S. W.	24	2. 88	...	Fog	...	Hidden	....	......	....	....	....	....	Foggy.
	8 0 a. m.	23. 62	52	50	23. 56	50	50	100	S. W.	27	3. 63	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	9 0 a. m.	23. 62	52	50	23. 56	50	50	100	W.	23	2. 64	....	Light fog	...	Cumulus	3-4	W.	....	....	...	....	Cloudy.
	10 0 a. m.	23. 63	54	52	23. 57	52	50	86	W.	17	1. 44	...	Hazy	...	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	11 0 a. m.	23. 64	56	52	23. 57	52	50	86	W.	18	1. 62	...	Stratus	3-4	Cumulus	1-4	W.	....	....	...	....	Cloudy.
	12 0 m ..	23. 64	60	58	23. 57	58	54	76	W.	8	. 32	393	Hazy	....	Cumulus	4 4	W.	....	....	....	....	Cloudy.
	1 0 p. m.	23. 63	59	60	23. 56	60	55. 5	73	S. W.	6	. 18	...	Hazy	....	Cumulus	4-4	W.	....	....	....	....	Cloudy; at 1.15 p. m. thunder storm east of this station.
	2 0 p. m.	23. 65	59	54	23. 58	54	53	93	S. W.	4	. 08	....	0	0	Cu. strat	3-4	S. W.	1.34 p. m.	....	. 07	....	Light rain; hail.
	3 0 p. m.	23. 61	57	54	23. 54	54	53	95	S. W.	6	. 18	....	Light fog	....	Cu.-strat	3-4	S. W.	....	....	. 04	....	Light rain.
	4 14 p. m.	23. 59	54	49	23. 53	49	49	100	S. W.	20	2. 00	....	Light fog	....	Cumulus	2-4	S. W.	....	3.35 p. m.	. 19	....	Cloudy.
	5 0 p. m.	23. 60	55	51	23. 54	51	49	80	W.	17	1. 44	....	Light fog	....	Cumulus	3-4	S. W.	....	....	....	....	Cloudy.
	6 0 p. m.	23. 59	53	50	23. 53	50	49	93	S. W.	16	1. 28	....	Hazy	...	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	7 0 p. m.	23. 60	54	50	23. 54	50	49	93	W.	18	1. 62	....	Hazy	....	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	8 0 p. m	23. 60	55	50	23. 54	50	49	93	S. W.	12	. 72	....	0	0	Cumulus	4-4	S. W.	....	....	....	....	Cloudy.
	9 0 p. m.	23. 63	57	50	23. 56	50	49. 5	96	S. W.	12	. 72	....	Light fog	....	Cu.-strat	4-4	......	....	....	....	....	Threatening.
	10 0 p. m.	23. 64	58	51	23. 57	51	50. 5	96	S. W.	10	. 50	....	Light fog	....	Cumulus	3-4	......	....	....	....	....	Cloudy; heat-lightning in W. horizon.
	10 39 p. m.	23. 65	59	50	23. 58	50	49	93	S. W.	12	. 72	....	Lt. fog in valley		Cumulus	2-4	......	....	....	....	....	Fair; heat-lightning in N. and N. E. horizon.
	12 0 p. m.	23. 65	56	49	23. 58	49	48	93	S. W.	20	2. 00	....	Lt. fog in valley		Cumulus	2-4	S. W.	....	....	....	51	Fair; heat-lightning in N. E. horizon.
Knoxville, Tenn.	7 0 a. m.	29. 02	73	66	28. 895	65	62	84	0	0	0	....	Nimbus	4-4	Hidden	....	......	....	....	....	....	Light rain.
	7 7 a. m.	29. 02	73	66	28. 895	65	62	48	0	0	0	....	Nimbus	4-4	Hidden	....	......	7.25 a. m.	7.40 a. m.	Blk.	....	Light rain.
	11 33 a. m.	29. 01	78	77	28. 872	76	66	56	S. W.	18	1. 62	141	Stratus	4-4	Hidden	....	......	....	....	....	....	Cloudy.
	2 0 p. m.	29. 98	80	79	28. 837	78	66	51	S. W.	16	1. 28	....	Stratus	2-4	Cumulus	1-4	W.	....	....	....	....	Clearing.
	4 7 p. m.	28. 95	82	82	28. 802	81	68	47	S. W.	20	2. 00	...	Hazy	...	Cumulus	4-4	S. W.	....	....	....	....	Cloudy.
	9 0 p. m.	28. 99	77	75	28. 854	74	67	64	S W.	6	. 18	...	Stratus	2-4	Hazy	...	......	....	....	....	....	Cloudy.
	10 32 p. m.	28. 98	76	73	28. 847	72	66	71	. W.	10	. 50	....	0	0	Cumulus	1-4	0	....	....	....	....	Fair.

Meteorological record for May 20, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 63	55	49	23. 57	49	48	93	S. W.	20	2. 00		Light fog in the valley.		Cumulus.	2-4						Fair; heat-lightn'g in N. and S. W. horizon.
	2 0 a. m.	23. 63	55	48	23. 57	48	47. 5	96	S. W.	16	1. 28		Fog		Hidden							Foggy.
	3 0 a. m.	23. 64	56	47	23. 57	47	47	100	W.	16	1. 28		Fog		Hidden							Foggy.
	4 0 a. m.	23. 64	58	46	23. 57	46	46	100	S. W.	12	. 72		Fog		Hidden							Foggy.
	5 0 a. m.	23. 65	56	47	23. 58	47	47	100	W.	14	. 98		Fog		Hidden							Foggy.
	6 0 a. m.	23. 66	57	48	23. 59	48	48	100	W.	8	. 32		Fog		Hidden							Foggy.
	7 14 a. m	23. 67	56	50	23. 60	50	50	100	W.	7	. 24		Fog		Hidden							Foggy.
	8 0 a. m.	23 69	56	50	23. 62	50	50	100	W.	8	. 32		Fog		Hidden							Foggy.
	9 0 a. m.	23. 71	61	52	23. 63	52	51	93	W.	9	. 40		Light fog		Cumulus.	1-4	W.					Fair.
	10 0 a. m.	23. 72	63	55	23. 64	55	52	80	N. W.	8	. 32		Hazy and fog		Cumulus.	2-4	N. W.					Fair.
	11 0 a. m.	23. 73	63	58	23. 65	58	54	76	N. W.	4	. 08		Hazy and fog		Cumulus.	3-4	W.					Cloudy.
	12 0 m	23. 74	63	63	23. 66	63	58	72	N. W.	4	. 08	290	Hazy and fog		Cumulus.	3-4	N. W.					Cloudy.
	1 0 p. m.	23. 73	62	61	23. 65	61	55	66	W.	4	. 08		Hazy and fog		Cumulus.	4-4	W.					Cloudy.
	2 0 p. m	23. 72	60	58	23. 65	58	54	76	S. W.	2	. 02		Fog		Hidden							Foggy.
	3 0 p. m.	23. 72	60	54	23. 64	54	53	93	S. E.	5	. 12		Fog		Hidden							Foggy.
	4 14 p. m.	23. 72	61	53	23. 64	53	52	93	S. E.	8	. 32		Nimbus	4-4	Hidden			3.54 p. m.		. 02		Light rain.
	5 0 p. m.	23. 74	60	49	23. 67	49	43	71	N. E.	4	. 08		Nimbus	4-4	Hidden					. 31		Light rain; thunder-st'rm with heavy rain at 4.20 p. m., S. to N.
	6 0 p. m.	23. 72	56	49	23. 65	49	44	64	E.	10	. 50		Stratus	1-4	Cumulus.	4-4			5.16 p. m.	. 02		Cloudy.
	7 0 p. m.	23. 72	58	50	23. 65	50	46	72	E.	6	. 18		Hazy		Cirrus	2-4						Fair.
	8 0 p. m.	23. 73	59	49	23. 66	49	48	93	S. E.	12	. 72		Nimbus	4-4	Hidden			7.35 p. m.		. 01		Light rain.
	9 0 p. m.	23. 73	60	48	23. 65	48	48	100	S. E.	16	1. 28		Nimbus	4-4	Hidden					. 06		Light rain.
	10 0 p. m.	23. 74	63	48	23. 66	48	48	100	S. E.	12	. 72		Nimbus	4-4	Hidden					. 07		Light rain.
	10 39 p. m	23. 73	63	48	23. 65	48	48	100	S. E.	12	. 72		Nimuus	4-4	Hidden					. 05		Light rain.
	12 0 p. m.	23. 72	60	47	23. 64	47	47	100	S. E.	16	1. 28		Fog		Hidden				11.23 p. m.	. 02	51. 1	Foggy.
Knoxville, Tenn.	7 0 a. m.	29. 11	74	70	28. 982	69	66	84	S. W.	4	. 08		Hazy		Cumulus.	1-4	W.					Fair.
	7 7 a. m.	29. 11	74	70	28. 982	69.	66	84	S. W.	4	. 08		Hazy		Cumulus.	1-4	W.					Fair.
	11 33 a. m.	29. 11	80	80	28. 967	79	67	51	W.	8	. 32	210	0	0	Cumulus.	1-4	W.					Fair.
	2 0 p. m.	20. 05	82	85	28. 902	84	67	37	W.	8	. 32		0	0	Cumulus.	1-4	0					Fair.
	4 7 p. m.	29. 05	82	90	28. 902	89	66	24	S. W.	6	. 18		0	0	Cumulus.	1-4	0					Fair.
	9 0 p. m.	29. 09	79	77	28. 954	76	66	56	W.	4	. 08		Stratus	4-4	Hidden			9.45 p. m.	10.30 p. m.			Cloudy.
	10 32 p. m.	29. 07	79	68	28. 929	67	64	84	W.	13	. 84		Nimbus	4-4	Hidden			10.30 p. m.	11.30 p. m.	27		Heavy rain.

Meteorological record for May 21, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.72	61	47	23.64	47	47	100	S. E.	12	.72	....	Fog	......	Hidden..	....	......	....	....	....	....	Foggy.
	2 0 a. m.	23.69	60	47	23.62	47	47	100	S. E.	12	.72	....	Fog	......	Hidden..	....	......	....	....	....	....	Foggy.
	3 0 a. m.	23.69	59	47	23.62	47	47	100	E.	12	.72	...	Nimbus .	4-4	Hidden..	....	......	2.18 a. m.	....	.03	....	Light rain.
	4 0 a. m.	23.69	59	46	23.62	46	46	100	E.	14	.98	....	Nimbus	4-4	Hidden..	....	......	....	....	.04	....	Light rain.
	5 0 a. m.	23.69	57	47	23.62	47	47	100	S. E.	11	.60	...	Nimbus	4-4	Hidden..	....	......	....	....	.06	....	Light rain.
	6 0 a. m.	23.70	56	47	23.63	47	47	100	S. E.	14	.98	....	Nimbus .	4-4	Hidden..	....	......	....	....	.07	....	Light rain.
	7 14 a. m.	23.71	61	48	23.63	48	48	100	S. E.	10	.50	....	Dense fog	......	Hidden..	....	......	....	6.45 a. m.	.05	....	Foggy.
	8 0 a. m.	23.71	60	49	23.63	49	49	100	S. E.	12	.72	...	Fog	......	Hidden..	....	......	....	....	....	....	Foggy.
	9 0 a. m.	23.71	58	49	23.64	49	49	100	E.	12	.72	....	Dense fog	......	Hidden..	....	......	....	....	....	....	Foggy.
	10 0 a. m.	23.70	58	48	23.63	48	48	100	S. E.	12	.72	....	Nimbus .	4-4	Hidden..	....	......	9.32 a. m.	....	....	....	Light rain.
	11 0 a. m.	23.70	59	50	23.63	50	50	100	S. E.	14	.98	...	Fog	......	Hidden..	....	......	....	10.24 a. m.	.03	....	Foggy.
	12 0 p. m.	23.70	59	50	23.63	50	50	100	E.	9	.40	249	Fog	......	Hidden..	....	......	....	....	....	....	Foggy.
	1 0 p. m.	23.70	58	50	23.63	50	50	100	S.W.	7	.24	....	Nimbus .	4-4	Hidden..	....	......	12.30 p. m.	....	.16	....	Heavy rain.
	2 0 p. m	23.69	58	51	23.62	51	51	100	E.	4	.08	....	Dense fog	.....	Hidden..	....	......	....	1.35 p. m.	.14	...	Foggy.
	3 0 p. m.	23.67	56	50	23.60	50	50	100	S. E.	4	.08	....	Dense fog	......	Hidden..	....	......	....	....	....	....	Foggy; mist.
	4 14 p. m.	23.67	52	49	23.61	49	49	100	S. E.	4	.08	....	Dense fog	......	Hidden..	....	......	3.10 p. m.	....	.12	....	Light rain.
	5 0 p. m.	23.66	54	51	23.60	51	50.5	96	S.W.	12	.72	...	Dense fog	......	Hidden..	....	......	....	....	.05	....	Light rain.
	6 0 p. m.	23.64	53	51	23.58	51	51	100	S.W.	16	1.28	....	Dense fog	.....	Hidden.	....	......	....	....	.02	....	Light rain.
	7 0 p. m.	23.66	55	48	23.60	48	48	100	S.W.	12	.72	....	Dense fog	......	Hidden..	....	......	....	....	.02	....	Light rain.
	8 0 p. m.	23.66	53	48	23.60	48	48	100	S.W.	16	1.28	..	Dense fog	......	Hidden..	...	......	....	....	.03	....	Light rain.
	9 0 p. m.	23.66	53	48	23.60	48	48	100	S.W.	16	1.28	....	Nimbus .	4-4	Hidden..	....	......	....	....	.02	....	Light rain.
	10 0 p. m.	23.67	54	49	23.61	49	49	100	S.W.	12	.72	....	Fog	......	Hidden..	....	......	....	9.28 p. m.	.01	48.5	Foggy.
	10 39 p. m.	23.66	53	48	23.60	48	47.5	96	S.W.	16	1.28	....	Light fog	......	Cirrus ...	3-4	S. W.	....	....	....	....	Cloudy.
	12 0 m ...	23.66	51	47	23.60	47	47	100	S.W.	20	2.00	...	Fog	......	Hidden..	....	......	....	....	....	....	Foggy.
Knoxville, Tenn..	7 0 a. m.	29.10	77	67	28.964	66	63	84	N.	6	.18	....	0	0	Cir. & cu.	4-4	0	....	....	....	....	Clearing.
	7 7 a. m.	29.10	77	67	28.964	66	63	84	N.	6	.18	....	0	0	Cir. & cu.	4-4	0	10.00 a. m.	2 45 p. m.	.06	....	Clearing.
	11 33 a. m.	29.10	76	67	28.967	66	64	90	N.	10	.50	138	Nimbus .	4-4	Hidden..	....	......	....	....	....	....	Light rain.
	2 0 p. m.	29.05	73	66	28.92[illegible]	65	64	94	E.	12	.72	...	Nimbus.	4-4	Hidden..	....	......	....	....	....	....	Light rain.
	4 7 p. m.	29.04	73	69	28.910	68	66	90	E.	8	.32	....	Stratus..	1-4	Cumulus	4-4	W.	5.30 p. m.	6.00 p. m.	.50	....	Clearing.
	9 0 p. m.	29.02	74	66	28.892	65	64	94	E.	4	.08	...	Stratus..	4-4	Hidden..	....	......	....	....	....	....	Cloudy.
	10 32 p. m.	29.05	73	66	28.925	65	63	90	N. E.	4	.08	....	Stratus..	4-4	Hidden..	....	......	....	....	.04	....	Cloudy.

Meteorological record for May 22, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. foot.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.64	50	46	23.59	46	46	100	S. W.	16	1.28	....	Nimbus	4-4	Hidden	....	....	12.23 a. m.	....	0.3	....	Light rain.
	2 0 a. m.	23.64	50	46	23.59	46	46	100	W.	20	2.00	....	Fog	....	Hidden	....	....	....	1.45 a. m.	0.4	....	Foggy.
	3 0 a. m.	23.64	50	46	23.59	46	46	100	W.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 0 a. m.	23.63	50	47	23.58	47	47	100	W.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy; distant thunder-storm in S.
	5 0 a. m.	23.64	50	45	23.59	45	45	100	W.	16	1.28	....	Fog	....	Hidden	....	....	....	....	.09	....	Foggy.
	6 0 a. m.	23.65	51	45	23.59	45	45	100	N. W.	5	.12	....	Nimbus	4-4	Hidden	....	....	5.40 a. m.	....	.05	....	Light rain.
	7 14 a. m.	23.66	50	46	23.61	46	46	100	W.	11	.60	....	Fog	....	Hidden	....	....	....	7.01 a. m.	....	....	Foggy.
	8 0 a. m.	23.67	51	47	23.61	47	47	100	N. W.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 a. m.	23.68	55	51	23,62	51	50	93	N. W.	11	.60	....	Fog	....	Cumulus	1-4	W.	....	....	....	....	Foggy.
	10 0 a. m.	23.69	55	53	23.63	53	51	86	N. W.	6	.18	....	Hazy	....	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	11 0 a. m.	23.70	55	54	23.64	54	51	80	N. W.	4	.08	....	Stratus	1-4	Cumulus	2-4	N. W.	....	....	....	....	Cloudy.
	12 0 a. m.	23.70	55	57	23.65	57	55	87	N. W.	4	.08	....	Hazy	....	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	1 0 p. m.	23.72	61	60	23.64	60	56	76	N. W.	4	.08	....	Hazy	....	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	2 0 p. m.	23.72	64	60	23.64	60	56	76	N. W.	12	.72	....	0	0	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	3 0 p. m.	23.72	64	58	23.64	58	54	76	N. W.	8	.32	....	0	0	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	4 14 p. m.	23.73	66	61	23.64	61	55	66	N. W.	12	.72	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Fair.
	5 0 p. m.	23.72	65	58	23.63	58	53	70	N. W.	9	.40	....	Hazy	....	Cumulus	1-4	W.	....	....	....	....	Fair.
	6 0 p. m.	23.71	63	57	23.63	57	54	81	N. W.	8	.32	....	Hazy	....	Cirrus	1-4	W.	....	....	....	....	Fair.
	7 0 p. m.	23.75	61	52	23.67	52	47	66	N. E.	12	.72	....	Hazy	....	Cirrus	2-4	0	....	....	....	....	Fair.
	8 0 p. m.	23.73	60	52	23.65	52	47	66	N. E.	12	.72	....	Hazy	....	Cirrus	2-4	0	....	....	....	....	Fair.
	9 0 p. m.	23.72	58	52	23.65	52	47	66	N. E.	18	1.62	....	Hazy	....	Cirrus	1-4	0	....	....	....	....	Fair.
	10 0 p. m.	23.71	57	52	23.64	52	45	53	N.E.	12	.72	....	Hazy	....	Cirrus	1-4	0	....	....	....	....	Fair.
	10 39 p. m.	23.71	56	52	23.64	52	45	53	N.	10	.50	....	0	0	0	0	0	....	....	....	....	Clear.
	12 0 p. m.	23.71	57	51	23.64	51	47	72	N. W.	6	.18	....	0	0	0	0	0	....	....	....	52.0	Clear.
Knoxville, Tenn.	7 0 a. m.	29.11	72	66	28.987	65	64	94	S.	6	.18	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	7 7 a. m.	29.11	72	66	28.987	65	64	94	S.	6	.18	....	Stratus	4-4	Hidden	....	....	In night	In night	.13	....	Cloudy.
	11 33 a. m.	29.13	76	74	28.997	73	66	67	S.	12	.72	149	0	0	Cumulus	2-4	W.	....	....	....	....	Clearing.
	2 0 p. m.	29.09	78	79	28.952	78	68	57	S. W.	4	.08	....	0	0	Cirrus	1-4	S. W.	....	....	....	....	Clear.
	4 7 p. m.	29.08	79	82	28.939	81	69	52	S. W.	4	.05	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	9 0 p. m.	29.08	76	72	28.947	71	68	95	S.	2	.02	....	0	0	0	0	0	....	....	....	....	Clear.
	10 32 p. m.	29.06	75	69	28.930	68	66	92	S. E.	2	.02	....	0	0	0	0	0	....	....	....	....	Clear.

Meteorological record for May 23, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction (moving from—)	Comment'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.69	55	49	23.63	49	46	78	W.	6	.18		0	0	Cirrus	1-4	0					Fair.
	2 0 a. m.	23.69	55	50	23.63	50	45	65	W.	8	.32		0	0	0	0	0					Clear.
	3 0 a. m.	23.69	55	50	23.63	50	45	65	W.	8	.32		0	0	Cirrus	1-4	0					Fair.
	4 0 a. m.	23.69	54	50	23.63	50	49	93	N. W.	12	.72		0	0	Cirrus	2-4	0					Fair.
	5 0 a. m	23.69	52	50	23.63	50	50	100	W.	18	1.62		Fog		Hidden							Foggy.
	6 0 a. m.	23.69	56	50	23.62	50	50	100	W.	24	2.88		Fog		Hidden							Foggy.
	7 14 a. m.	23.70	59	51	23.63	51	51	100	W.	20	2.00		Fog		Hidden							Foggy.
	8 0 a. m.	23.71	60	53	23.63	53	53	100	W.	28	3.92		Fog		Hidden							Foggy.
	9 0 a. m.	23.72	59	51	23.65	51	51	100	N. W.	20	2.00		Fog		Cumulus	2-4	W.	8.30 a. m.	8.50 a. m.	.05		Fair.
	10 0 a. m.	23.72	59	55	23.65	55	52	80	N. W.	12	.72		Hazy		Cirrus	3-4						Cloudy.
	11 0 a. m.	23.72	63	62	23.64	62	53	51	N. W.	12	.72		Hazy		Cirrus	1-4						Fair.
	12 0 m.	23.73	67	64	23.64	64	54	48	N. W.	16	1.28	295	Hazy		Cirrus	1-4						Fair.
	1 0 p. m.	23.75	66	66	23.66	66	55	45	N. W.	12	.72		Hazy		Cir. & cu.	3-4	N. W.					Fair.
	2 0 p. m.	23.74	65	66	23.65	66	55	45	N.W.	12	.72		Hazy		Cir. & cu.	2-4	N. W.					Fair.
	3 0 p. m.	23.74	71	66	23.64	66	55	45	N.W.	12	.72		Hazy		Cir. & cu.	2-4	N. W.					Fair.
	4 14 p. m.	23.74	72	64	23.64	64	54	48	N.	16	1.28		Hazy		Cir. & cu.	2-4	W.					Fair.
	5 0 p. m.	23.73	71	65	23.63	65	55	49	N.W.	12	.72		Hazy		Cir. & cu.	2-4	N. W.					Fair.
	6 0 p. m.	23.72	68	64	23.63	64	54	48	N.W.	8	.32		Hazy		Cir. & cu.	2-4	N. W.					Fair.
	7 0 p. m.	23.71	63	57	23.63	57	53	73	N. W.	8	.32		Hazy		Cir. & cu.	3-4	N. W.					Cloudy.
	8 0 p. m.	23.71	64	55	23.63	55	53	87	N. W.	8	.32		Hazy		Cir. & cu.	3-4	N. W.					Cloudy; heat-light'ng in S. and E. horizon.
	9 0 p. m.	23.71	62	55	23.63	55	52	80	N.	8	.32		0	0	Cir. & cu.	2-4						Fair; heat-lightning in S. and W. horizon.
	10 0 p. m.	23.71	59	55	23.64	55	53	87	N.W.	14	.98		Light fog		Cumulus	2-4						Fair; heat-lightning in W. horizon.
	10 39 p. m.	23.70	59	55	23.63	55	53	87	N.W.	12	.72		Light fog		Cumulus	2-4						Do.
	12 0 p. m.	23.69	59	54	23.62	54	52	87	N. W.	12	.72		0	0	Cumulus	2-4					56.5	Do.
Knoxville, Tenn.	7 0 a. m.	29.15	72	67	29.027	66	63	84	S.	7	.24		Stratus	4-4	Hidden							Cloudy.
	7 7 a. m.	29.15	72	67	29.027	66	63	84	S.	7	.24		Stratus	4-4	Hidden			6.45 a. m.	7 00 a. m.	.01		Cloudy.
	11 32 a. m.	29.10	77	77	28.964	76	66	56	N. W.	7	.24	88	0	0	Cirrus	3-4	0					Fair.
	2 0 p. m.	29.07	81	83	28.924	82	70	52	S. W.	12	.72		0	0	Cirrus	1-4	0					Fair.
	4 7 p. m.	29.04	81	86	28.894	85	72	51	S. W.	12	.72		0	0	Cirrus	2-4	0					Fair.
	9 0 p. m.	29.02	79	77	28.879	76	66	58	W.	20	2.00		Stratus	4-4	Hidden							Cloudy.
	10 32 p. m.	29.09	77	70	28.954	69	63	70	S. W.	20	2.00		Stratus	4-4	Hidden			11.10 p. m.				Threatening.

Meteorological record for May 24, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN or SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 68	58	54	23. 61	54	53	93	W.	17	1. 44	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 a. m.	23. 66	55	54	23. 60	54	53	93	W.	28	3. 92	....	Fog	....	Hidden	....	....	....	....	....	..	Foggy.
	3 0 a. m.	23. 65	54	50	23. 59	50	49. 5	96	N. W.	20	2. 00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 0 a. m.	23. 63	54	50	23. 57	50	48	86	W.	20	2. 00	....	0	0	Cir. & cu	3-4	....	....	....	....	....	Cloudy.
	5 0 a. m.	23. 64	55	53	23. 58	53	48	67	W.	16	1. 28	...	0	0	Cir. & cu	3-4	....	....	....	....	....	Cloudy.
	6 0 a. m.	23. 64	55	56	23. 58	56	48	51	W.	20	2. 00	....	Hazy	....	Cirrus	2-4	....	....	....	....	....	Fair.
	7 14 a. m.	23. 65	56	57	23. 58	57	50	58	W.	12	. 72	....	Hazy	....	Cir. & cu	2-4	N. W.	....	....	....	....	Fair.
	8 0 a. m.	23 66	56	57	23. 59	57	49.	52	W.	12	. 72	...	Hazy	....	Cirrus	1-4	....	....	....	....	...	Fair.
	9 0 a. m.	23. 66	59	61	23. 59	61	53	55	N. W.	8	. 32	....	Hazy	....	Cirrus	1-4	N. W.	....	....	....	...	Fair.
	10 0 a. m	23. 67	60	59	23. 60	59	53	65	N. W.	8	. 32	....	Hazy	....	Cir. & cu	3-4	W.	....	....	....	....	Cloudy.
	11 0 a. m.	23. 67	60	58	23. 60	58	52	64	N. W.	12	. 72	...	Hazy	....	Cir. & cu	4-4	W.	....	....	....	....	Cloudy.
	12 0 m.	23. 67	60	60	23. 60	60	52	55	N. W.	12	. 72	310	Hazy	....	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	1 0 p. m.	23. 67	61	62	23. 59	62	53	51	W.	8	. 32	....	Hazy	....	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	2 0 p. m.	23. 67	63	62	23. 59	62	54	56	W.	8	. 32	....	Hazy	....	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	3 0 p. m.	23. 67	65	64	23. 58	64	55	53	N. W.	8	. 32	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	4 14 p. m.	23. 67	66	61	23. 58	61	54	61	S. W.	12	. 72	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	5 0 p. m.	23. 65	65	58	23. 56	58	52	64	N.	14	. 98	....	Hazy	....	Cumulus	3-4	N.	....	....	....	....	Fair.
	6 0 p. m.	23. 66	63	58	23. 58	58	52	64	N. W.	8	. 32	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Fair.
	7 0 p. m.	23. 64	56	54	23. 57	54	50	74	N. E.	18	1. 62	....	Hazy	....	Cirrus	2-4	N. E.	....	....	....	....	Fair.
	8 0 p. m.	23. 64	56	52	23. 57	52	50	86	N. E.	24	2. 88	....	Hazy	....	Cirrus	2-4	N. E.	....	....	....	....	Fair.
	9 0 p. m.	23. 66	56	53	23. 59	53	51	86	N. E.	24	2. 88	....	Hazy	....	Cir. & cu	2-4	N. E.	....	....	....	....	Fair; heat-lightning in W. horizon.
	10 0 p. m.	23. 67	56	53	23. 60	53	50	80	N. E.	16	1. 22	....	0	0	Cirrus	1-4	....	....	....	....	....	Fair.
	10 39 p. m.	23. 68	56	52	23. 62	52	50	86	N. E.	12	. 72	....	Light fog	....	0	0	0	....	....	....	....	Fair.
	12 0 p. m.	23. 68	56	52	23. 62	52	50	86	N. E.	12	. 72	....	Light fog	....	0	0	0	....	....	....	56. 2	Fair.
Knoxville, Tenn.	7 0 a. m.	29. 05	74	67	28. 922	66	64	84	W.	3	. 04	...	0	0	Cumulus	3-4	0	....	....	....	....	Clearing.
	7 7 a. m.	29. 05	74	67	28. 922	66	64	84	W.	3	. 04	....	0	0	Cumulus	3-4	0	....	In night	. 19	....	Clearing.
	11 32 a. m.	29. 08	78	76	28. 942	75	68	68	S. E.	4	. 08	178	0	0	Cu. & cir	2-4	N. W.	....	....	....	....	Fair.
	2 0 p. m	29. 05	80	80	28. 907	79	70	60	N. E.	4	. 08	....	0	0	Cu. & cir	4-4	0	....	....	....	...	Fair.
	4 7 p. m.	29. 04	81	82	28. 894	81	70	53	E.	4	. 08	...	0	0	Cirrus	4-4	0	....	....	....	....	Fair.
	9 0 p. m.	29. 01	78	74	28. 872	73	70	85	N. E.	4	. 08	...	0	0	Hazy	...	....	....	....	....	....	Fair.
	10 32 p. m.	29. 03	78	71	28. 892	70	67	84	E.	3	. 04	....	0	0	0	0	0	....	....	....	....	Clear.

Meteorological record for May 25, 1873.

(Hourly observation.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 67	55	52	23. 61	52	48	73	N. E.	14	.98	....	0	0	Cirrus...	1-4	N. E.	....	....	....	....	Fair.
	2 0 a. m.	23. 66	53	51	23. 60	51	49	86	N. E.	16	1.28	....	0	0	Cirrus...	2-4	......	....	....	....	....	Fair.
	3 0 a. m.	23. 65	53	51	23. 59	51	47	72	N. E.	20	2.00	....	0	0	Cirrus...	2-4	......	....	....	....	....	Fair.
	4 0 a. m.	23. 64	54	50	23. 57	50	46	72	N. E.	20	2.00	...	0	0	Cirrus...	1-4	N. E.	....	....	....	....	Fair.
	5 0 a. m.	23. 65	54	54	23. 59	54	49	67	N. E.	16	1.28	....	0	0	Cirrus...	1-4	......	....	....	....	....	Fair.
	6 0 a. m.	23. 66	56	56	23. 59	56	50	63	N. E.	12	.72	....	Hazy....	....	Cirrus...	1-4	0	....	....	....	....	Fair.
	7 14 a. m.	23. 67	57	59	23. 60	59	52	59	N. E.	12	.72	....	Hazy....	....	Cirrus...	2-4	0	....	....	....	....	Fair.
	8 0 a. m.	23. 69	60	60	23. 62	60	54	65	N. E.	8	.32	...	Hazy....	....	Cirrus...	1-4	N. W.	....	....	....	....	Fair.
	9 0 a. m.	23. 71	63	60	23. 63	60	54	65	E.	5	.12	....	Hazy....	....	Cirrus...	2-4	N. W.	....	....	....	....	Fair.
	10 0 a. m.	23. 73	66	64	23. 64	64	55	53	N. E.	8	.32	...	Hazy....	....	Cumulus.	2-4	N.	....	....	....	....	Fair.
	11 0 a. m.	23. 74	67	62	23. 65	62	56	66	E.	8	.32	...	Hazy....	....	Cumulus.	4-4	S. E.	....	....	....	....	Cloudy.
	12 0 m...	23. 73	64	58	23. 65	58	55	82	E.	3	.04	397	Nimbus	3-4	Cumulus.	1-4	0	11.40 a. m.	....	.04	....	Heavy rain, thunder-storm, and hail.
	1 0 p. m.	23. 71	60	55	23. 63	55	52	80	E.	8	.32	....	Hazy....	....	Cumulus.	3-4	0	....	....	.43	....	Light rain.
	2 0 p. m.	23. 72	63	60	23. 64	60	55	71	N. E.	4	.08	..	Hazy....	....	Cumulus.	3-4	N. W.	....	1.05 p. m.	....	....	Cloudy.
	3 0 p. m.	23. 71	61	55	23. 63	55	53	87	N. W.	2	.02	....	Light fog	....	Cumulus.	3-4	N. W.	....	....	....	....	Cloudy; dist't thunder-storm in S. W. and E.
	4 14 p. m.	23. 70	65	58	23. 61	58	52	64	N. E.	2	.02	....	Hazy....	....	Cumulus.	3-4	N. E.	....	....	....	....	Cloudy; thunder-storm in S. W. and W.
	5 0 p. m.	23. 71	64	54	23. 63	54	48	61	N. E.	4	.08	....	Hazy....	....	Cumulus.	3-4	0	....	....	....	....	Cloudy.
	6 0 p. m.	23. 70	62	56	23. 62	56	52	75	S. E.	6	.18	....	Hazy....	....	Cumulus.	3-4	N. E.	....	....	....	....	Cloudy.
	7 0 p. m.	23. 69	61	54	23. 61	54	51	80	S. E.	6	.18	...	Hazy....	....	Cumulus.	3-4	N. E.	....	....	....	....	Cloudy.
	8 0 p. m.	23. 70	61	52	23. 62	52	51	93	S. E.	10	.50	...	Hazy....	....	Cumulus.	4-4	0	....	....	....	....	Cloudy.
	9 0 p. m.	23. 71	61	52	23. 63	52	49	79	S. E.	12	.72	...	0	0	Cumulus.	3-4	0	....	....	....	....	Cloudy.
	10 0 p. m.	23. 72	59	51	23. 65	51	49	86	S. E.	8	.32	....	0	0	Cumulus.	2-4	0	....	....	....	....	Fair.
	10 39 p. m.	23. 71	58	51	23. 64	51	50	93	S. E.	12	.72	...	0	0	Cumulus.	2-4	0	....	....	....	....	Fair.
	12 0 p. m.	23. 70	57	52	23. 63	52	51.5	96	E.	12	.72	...	Fog.....		Hidden..		......	....	....	....	....	Foggy.
Knoxville, Tenn.	7 0 a. m.	29. 06	75	66	28. 930	65	62	83	E.	4	.08	....	0	0	Cirrus...	1-4	0	....	....	....	....	Fair.
	7 7 a. m.	29. 06	75	66	28. 930	65	62	83	E.	4	.08	71	0	0	Cirrus..	1-4	0	....	....	....	....	Fair.
	11 39 a. m.	29. 07	81	81	28. 924	80	70	58	S. E.	3	.04	....	0	0	Cu. & cir.	1-4	0	....	....	....	....	Fair.
	2 0 p. m.	29. 03	83	86	28. 879	85	69	40	N. W.	4	.08	...	0	0	Cu. & cir.	1-4	0	....	....	....	....	Fair.
	4 7 p. m.	29. 01	83	87	28. 859	86	70	41	W.	10	.50	....	0	0	Cu. & cir.	4-4	0	....	....	....	....	Cloudy.
	9 0 p. m.	29. 04	79	74	28. 899	73	66	67	0	0	0	....	Stratus..	2-4	0	0	0	....	....	....	....	Fair.
	10 32 p. m.	29. 04	77	70	28. 904	69	64	75	N. W.	8	.32	....	0	0	0	0	0	....	....	....	....	Clear.

Meteorological record for May 26, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.70	57	53	23.63	53	52.5	96	S. E.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 a. m.	23.69	56	52	23.62	52	52	100	S. E.	18	1.62	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 a. m.	23.68	54	52	23.62	52	52	100	S. E.	20	2.00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 0 a. m.	23.68	53	50	23.62	50	50	100	S. E.	18	1.62	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 a. m.	23.69	55	51	23.63	51	51	100	S. E.	10	.50	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 a. m.	23.70	56	52	23.63	52	52	100	S. E.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 14 a. m.	23.71	55	53	23.65	53	53	100	S.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 a. m.	23.72	56	55	23.65	55	54	93	S. W.	8	.32	....	Nimbus	4-4	Hidden	....	....	7 25 a. m.	....	.14	....	Heavy rain.
	9 0 a. m.	23.73	57	57	23.66	57	55	87	S. W.	8	.32	....	Fog	....	Hidden	....	....	....	....	.03	....	Light rain.
	10 0 a. m.	23.74	59	56	23.67	56	55	93	E.	8	.32	....	Fog	....	Hidden	....	....	....	9 10 a. m	....	....	Foggy.
	11 0 a. m.	23.74	59	60	23.67	60	58	88	S. E	4	.08	....	Fog	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	12 0 m ..	23.74	60	62	23.66	62	59	83	S. E.	8	.32	226	Fog	....	Hidden	....	....	11 20 a. m.	11 25 a. m.	Blk	....	Foggy.
	1 0 p. m.	23.73	59	61	23.66	61	60	94	S. E.	8	.72	....	Fog	....	Hidden	....	....	12 20 p. m.	....	.17	....	Light rain; thunderstorm from S. W.
	2 0 p. m.	23.71	55	53	23.65	53	51	86	S. W.	12	.72	....	Nimbus	2-4	Cumulus	2-4	N. W.	....	1 06 p. m.	....	....	Light rain; thunderstorm from S. W.
	3 0 p. m.	23.71	56	55	23.64	55	54	93	S. E.	12	.72	....	Fog	...	Cumulus	1-4	0	1 35 p. m.	2 10 p. m.	.08	....	Cloudy.
	4 14 p. m.	23.71	55	55	23.65	53	54	93	S. W.	12	.72	....	Fog	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	5 0 p. m.	23.72	58	57	23.65	57	56	94	S.	12	.72	....	Fog	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	6 0 p. m.	23.74	59	55	23.67	55	54	93	E.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 0 p. m.	23.72	60	54	23.64	54	53	93	S.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 p. m.	23.71	60	53	23.63	53	53	100	S. E.	14	.98	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 p. m.	23.73	61	53	23.65	53	52	93	S. E.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 p. m.	23.75	60	53	23.67	53	52	93	E.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 39 p. m.	23.74	59	52	23.67	52	52	100	S. W.	18	1.62	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 p. m.	23.73	56	52	23.66	52	52	100	S. W.	18	1.62	....	Fog	...	Hidden	....	....	....	....	....	....	Foggy.
Knoxville, Tenn.	7 0 a. m.	29.11	77	65	28.974	64	62	89	E.	2	.02	...	Stratus	1-4	Cirrus	3-4	0	....	....	....	....	Cloudy.
	7 7 a. m.	29.11	77	65	28.974	64	62	89	E.	2	.02	....	Stratus	1-4	Cirrus	3-4	0	....	....	....	....	Cloudy.
	11 32 a. m.	29.11	79	79	28.969	78	68	56	W.	4	.08	107	0	0	0	0	0	....	....	....	....	Clear.
	2 0 p. m.	29.05	82	86	28.902	85	68	39	S. W.	8	.32	...	0	0	Cir. & Cu	1-4	0	....	....	....	....	Fair.
	4 7 p. m.	29.04	83	87	28.889	86	70	41	W.	8	.32	....	0	0	Cumulus	4-4	0	....	....	....	....	Cloudy.
	9 0 p. m.	29.06	80	78	28.917	77	70	69	E.	2	.02	....	Stratus	1-4	0	0	0	....	....	....	....	Fair.
	10 32 p. m.	29.07	80	75	28.927	74	69	78	N. E.	3	.04	....	Stratus	2-4	0	0	0	11 30 p. m.	11 40 p. m.	.07	....	Fair.

Meteorological record for May 27, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.72	56	52	23.65	52	51	93	S. W.	22	2.42	....	Fog	....	0	0	0	....	....	....	....	Foggy.
	2 0 a. m.	23.70	55	52	23.64	52	52	100	S. W.	24	2.88	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 a. m.	23.70	55	52	23.64	52	52	100	S. W.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 0 a. m.	23.70	55	51	23.64	51	51	100	S.	20	2.00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 a. m.	23.71	54	53	23.65	53	51	86	S. W.	26	3.38	....	Light fog	....	Cirrus	3-4	0	....	....	....	....	Cloudy.
	6 0 a. m.	23.71	52	54	23.65	54	52	87	S. W.	20	2.00	....	Hazy	....	Cirrus	2-4	0	....	....	....	....	Fair.
	7 14 a. m.	23.71	53	55	23.65	55	52	80	S. W.	12	.72	....	Hazy	....	Cirrus	1-4	0	....	....	....	....	Fair.
	8 0 a. m.	23.72	54	55	23.66	55	52	80	S. W.	20	2.00	....	Hazy	....	Cirrus	1-4	0	....	....	....	....	Fair.
	9 0 a. m.	23.73	56	57	23.66	57	53	75	S. W.	20	2.00	....	Hazy	....	Cirrus	1-4	0	....	....	....	....	Fair.
	10 0 a. m.	23.74	60	64	23.66	64	58	67	W.	8	.32	....	0	0	Cumulus	1-4	S. W.	....	....	....	....	Fair.
	11 0 a. m.	23.75	61	62	23.67	62	57	72	N. W.	4	.08	....	Hazy	....	Cumulus	3-4	S.	....	....	....	....	Fair.
	12 0 p. m.	23.74	62	68	23.66	68	59	56	S. W.	4	.08	330	Hazy	....	Cumulus	3-4	W.	....	....	....	....	Fair.
	1 0 p. m.	23.74	63	63	23.66	63	58	72	S. E.	4	.08	....	Fog	....	Cumulus	2-4	0	....	....	....	....	Cloudy.
	2 0 p. m.	23.72	60	56	23.64	56	55	93	S. W.	4	.08	....	Nimbus	3-4	Cumulus	1-4	0	1.35 p. m.	....	.34	....	Heavy rain; thunder-storm and hail.
	3 0 p. m.	23.71	62	59	23.63	59	57	88	S. E.	8	.32	....	Fog	....	Hidden	....	....	....	2.20 p. m.	.18	....	Foggy.
	4 14 p. m.	23.70	64	60	23.62	60	57	82	S. E.	12	.72	....	Hazy	....	Cumulus	3-4	S. W.	....	....	....	....	Cloudy.
	5 0 p. m.	23.69	62	57	23.61	57	54	81	S. W.	12	.72	....	Hazy	....	Cumulus	1-4	S. W.	....	....	....	....	Fair.
	6 0 p. m.	23.69	58	55	23.62	55	53	87	S. W.	16	1.28	....	Hazy	....	Cir-cum.	2-4	S.	....	....	....	....	Fair.
	7 0 p. m.	23.69	58	53	23.62	53	52	93	S. W.	26	3.38	....	Hazy	....	Cir-cum.	4-4	S. W.	....	....	....	....	Cloudy.
	8 0 p. m.	23.69	59	53	23.62	53	52	93	S. W.	26	3.38	....	Light fog	....	Cir-cum.	3-4	S. W.	....	....	....	....	Cloudy.
	9 0 p. m.	23.69	59	52	23.62	52	51	93	S. W.	28	3.92	....	0	0	Cir-cum.	2-4	S. W.	....	....	....	....	Fair.
	10 0 p. m.	23.70	60	51	23.62	51	50	93	S. W.	32	5.12	....	Light fog	....	Cirrus	1-4	W.	....	....	....	....	Fair.
	10 39 p. m.	23.70	59	51	23.63	51	50	93	S. W.	32	5.12	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	12 0 p. m.	23.68	59	50	23.61	50	49	93	S. W.	16	1.28	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
Knoxville, Tenn.	7 0 a. m.	29.12	79	69	28.979	68	66	90	E.	2	.02	....	0	0	Cumulus	3-4	S. W.	....	....	....	....	Clearing.
	7 7 a. m.	29.12	79	69	28.979	68	66	90	E.	2	.02	....	0	0	Cumulus	3-4	S. W.	....	....	....	....	Clearing.
	11 32 a. m.	29.11	81	83	28.964	82	69	49	S. W.	12	.72	109	0	0	Cumulus	3-4	S. W.	....	....	....	....	Fair.
	2 0 p. m.	29.04	83	84	28.889	84	70	51	S.	10	.50	....	Hazy	....	Cumulus	1-4	0	....	....	....	....	Fair.
	4 7 p. m.	29.02	85	87	28.864	86	67	33	S. W.	20	2.00	....	0	0	Cumulus	4-4	S. W.	....	....	....	....	Cloudy.
	9 0 p. m.	29.07	79	71	28.929	70	66	79	S. E.	8	.32	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	10 32 p. m.	29.07	78	70	28.932	69	64	77	S. W.	7	.24	....	Stratus	1-4	0	0	0	7.30 p. m.	7.45 p. m.	.02	....	Fair.

Meteorological record for May 28, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 66	57	50	23. 59	50	49	93	S. W.	26	3. 38	....	0	0	0	0	0	....	....	....	....	Clear.
	2 0 a. m.	23. 65	57	50	23. 58	50	49	93	S. W.	26	3. 38	....	0	0	0	0	0	....	....	....	....	Clear.
	3 0 a. m.	23. 65	57	49	23. 58	49	49	100	S. W.	28	3. 92	....	Fog	....	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	4 0 a. m.	23. 65	57	49	23. 58	49	49	100	W.	16	1. 28	....	Fog	....	Hidden	....	....	3. 30 a. m.	4. 15 a. m.	.03	....	Light rain.
	5 0 a. m.	23. 67	59	48	23. 60	48	47	92	W.	24	2. 88	....	Hazy	....	Cir., cum.	2-4	0	....	....	....	....	Fair.
	6 0 a. m.	23. 69	57	50	23. 62	50	49	93	N. W.	12	. 72	....	Hazy	....	Cir., cum.	2-4	S. W.	....	....	....	....	Fair.
	7 14 a. m.	23. 71	61	51	23. 63	51	50	93	N. W.	16	1. 28	....	Hazy	....	Cir., cum.	4-4	N. W.	....	....	....	....	Cloudy.
	8 0 a. m.	23. 72	61	52	23. 64	52	51	93	N. W.	12	. 72	....	Fog	....	Cirrus	2-4	0	....	....	....	....	Foggy.
	9 0 a. m.	23. 74	64	54	23. 66	54	52	87	N. W.	14	. 98	....	Hazy	....	Cir., cum.	2-4	N. W.	....	....	....	....	Fair.
	10 0 a. m.	23. 75	62	59	23. 67	59	52	59	N. W.	6	. 18	....	Hazy	....	Cir., cum.	2-4	N. W.	....	....	....	....	Fair.
	11 0 a. m.	23. 75	63	60	23. 67	60	53	60	N. W.	12	. 72	....	Hazy	....	Cir., cum.	2-4	N. W.	....	....	....	....	Fair.
	12 0 m.	23. 76	64	61	23. 68	61	54	61	N. W.	8	. 32	414	Hazy	....	Cumulus	2-4	W.	....	....	....	....	Fair.
	1 0 p. m.	23. 75	64	62	23. 67	62	55	61	N. W.	8	. 32	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	2 0 p. m.	23. 73	62	61	23. 65	61	54	61	N. W.	6	. 18	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	3 0 p. m.	23. 73	62	60	23. 65	60	54	65	N. W.	4	. 08	....	Hazy	....	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	4 14 p. m.	23. 72	63	60	23. 64	60	54	65	N. W.	6	. 18	....	Hazy	....	Cir., cum.	3-4	N. W.	....	....	....	....	Cloudy.
	5 0 p. m.	23. 74	64	57	23. 66	57	53	75	N. W.	4	. 08	....	Hazy	....	Cir., cum.	4-4	N. W.	....	....	....	....	Cloudy.
	6 0 p. m.	23. 73	60	53	23. 65	53	50	80	N. W.	8	. 32	....	Hazy	....	Cumulus	4-4	N. W.	5. 40 p. m.	5. 55 p. m.	.01	....	Cloudy.
	7 0 p. m.	23. 74	59	52	23. 67	52	50	86	W.	8	. 32	....	0	0	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	8 0 p. m.	23. 74	63	50	23. 66	50	48	86	W.	12	. 72	....	Nimbus	2-4	Cumulus	2-4	N. W.	....	....	....	....	Cloudy.
	9 0 p. m.	23. 75	63	51	23. 67	51	46	65	N. W.	10	. 50	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	10 0 p. m.	23. 76	60	51	23. 68	51	46	65	N. W.	8	. 32	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	10 39 p. m.	23. 75	59	51	23. 68	51	47	72	N. W.	8	. 32	....	0	0	Cumulus	4-4	0	....	....	....	....	Cloudy.
	12 0 p. m.	23. 75	59	51	23. 68	51	47	72	W.	4	. 08	....	0	0	Cumulus	3-4	0	....	....	....	....	Cloudy.
Knoxville, Tenn.	7 0 a. m.	29. 14	75	68	29. 010	67	64	84	W.	2	. 02	....	0	0	Cirrus	2-4	0	....	....	....	....	Fair.
	7 7 a. m.	29. 14	75	68	29. 010	67	64	84	W.	2	. 02	....	0	0	Cirrus	2-4	0	....	....	....	....	Fair.
	11 32 a. m.	29. 16	81	77	29. 014	76	66	56	E.	4	. 08	176	0	0	Cumulus	4-4	S. W.	....	....	....	....	Cloudy.
	2 0 p. m.	29. 12	81	78	28. 974	77	66	51	N. W.	5	. 12	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	4 7 p. m.	29. 11	81	77	28. 965	76	67	60	W.	4	. 08	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	9 0 p. m.	29. 14	77	72	29. 004	71	67	80	E.	4	. 08	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	10 32 p. m.	29. 13	77	71	28. 994	70	67	84	S. E.	2	. 02	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.

Meteorological record for May 29, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.74	59	52	23.67	52	48	73	N. W.	8	.32	....	0	0	Cumulus	4-4	0	....	....	....	....	Cloudy.
	2 0 a. m.	23.73	57	52	23.66	52	48	73	N. W.	10	.50	....	Nimbus	4-4	Hidden	....	....	1.55 a.m.	....	....	....	Light rain.
	3 0 a. m.	23.73	56	49	23.66	49	48	93	S. W.	12	.72	....	Nimbus	4-4	Hidden	....	....	....	....	.07	....	Light rain.
	4 0 a. m.	23.72	54	49	23.66	49	48	93	S. W.	16	1.28	....	Stratus	3-4	Hidden	....	....	....	3.45 a.m.	.05	....	Cloudy.
	5 0 a. m.	23.73	55	49	23.67	49	48	93	S. E.	6	.18	....	Nimbus	3-4	Hidden	....	....	4.20 a.m.	....	.02	....	Light rain.
	6 0 a. m.	23.74	55	50	23.68	50	50	100	S. E.	10	.50	....	Nimbus	4-4	Hidden	....	....	....	....	.11	....	Light rain.
	7 14 a. m.	23.74	54	50	23.68	50	50	100	S. W.	8	.32	....	Dense fog	....	Hidden	....	....	....	....	.12	....	Light rain.
	8 0 a. m.	23.75	54	51	23.69	51	51	100	W.	12	.72	....	Dense fog	....	Hidden	....	....	....	....	.15	....	Heavy rain.
	9 0 a. m.	23.75	54	53	23.69	53	53	100	W.	28	3.92	....	Dense fog	....	Hidden	....	....	....	....	.34	....	Heavy rain.
	10 0 a. m.	23.76	54	54	23.70	54	53	93	W.	20	2.00	....	Dense fog	....	Hidden	....	....	....	....	.29	....	Heavy rain.
	11 0 a. m.	23.77	54	56	23.71	56	54	87	W.	12	.72	....	Stratus	1-4	Cir., cum.	2-4	S. W.	....	10.15 a.m.	.05	....	Cloudy.
	12 0 m.	23.77	57	56	23.70	56	53	81	S. W.	12	.72	216	Stratus	1-4	Cir., cum.	3-4	0	....	....	....	....	Cloudy.
	1 0 p.m.	23.78	50	50	23.71	59	55	76	N. W.	8	.32	....	Hazy	....	Cir., cum.	3-4	0	....	....	....	....	Cloudy.
	2 0 p.m.	23.77	61	61	23.69	61	55	66	W.	8	.32	....	0	0	Cir., cum.	3-4	W.	....	....	....	....	Cloudy.
	3 0 p.m.	23.77	50	59	23.70	59	54	70	S. W.	12	.72	....	Nimbus	1-4	Cumulus	3-4	S. W.	2.55 p.m.	....	....	....	Light rain.
	4 14 p.m.	23.76	56	57	23.69	57	53	75	S. W.	14	.98	....	Hazy	....	Cumulus	4-4	S. W.	....	3.10 p.m.	.01	....	Cloudy.
	5 0 p.m.	23.74	58	59	23.67	59	56	82	S. W.	6	.18	....	Hazy	....	Cumulus	3-4	S. W.	....	....	....	....	Cloudy.
	6 0 p.m.	23.75	58	54	23.68	54	53	93	S. W.	8	.32	....	0	0	Cir., cum	3-4	0	....	....	....	....	Cloudy.
	7 0 p.m.	23.76	57	51	23.69	51	50	93	S. W.	8	.32	....	Stratus	1-4	Cirrus	2-4	S. W.	....	....	....	....	Cloudy.
	8 0 p.m.	23.78	63	51	23.69	51	50	93	S. W.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 p.m.	23.80	63	52	23.72	52	51	93	S. W.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 p.m.	24.80	64	52	23.72	52	51.5	96	S. W.	10	.50	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 39 p.m.	23.79	62	51	23.71	51	50.5	96	S. W.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 p. m.	23.78	60	51	23.70	51	50	93	S. W.	12	.72	....	0	0	Cumulus	3-4	S. W.	....	....	....	....	Cloudy.
Knoxville, Tenn.	7 0 a. m.	29.17	76	66	29.037	65	64	94	S.	4	.08	....	Nimbus	4-4	Hidden	....	....	In night.	7.45 a.m.	....	....	Light rain.
	7 07 a. m.	29.17	76	66	29.037	65	64	94	S.	4	.08	....	Nimbus	4-4	Hidden	....	....	8.30 a.m.	10.30 a.m.	.37	....	Light rain.
	11 32 a. m.	29.19	77	72	29.054	71	67	79	E.	6	.18	113	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	2 0 p.m.	29.14	80	77	28.997	76	69	67	S.	6	.18	....	Nimbus	4-4	Hidden	....	....	....	....	....	....	Threatening.
	4 7 p.m.	29.14	76	68	29.007	67	65	87	E.	2	.02	....	Nimbus	4-4	Hidden	....	....	3.00 p.m.	3.30 p.m.	.24	....	Light rain.
	9 0 p.m.	29.15	73	67	29.025	66	64	90	N. E.	3	.04	..	Stratus	1-4	0	0	0	....	....	....	....	Clearing.
	10 32 p.m.	29.17	73	66	29.045	65	64	92	W.	6	.18	....	Stratus	4-4	0	0	0	4.15 p.m.	6.15 p.m.	.00	....	Cloudy.

Meteorological record for May 30, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from)—	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 76	60	51	23. 68	51	50	93	S. W.	16	1. 28	....	0	0	Cumulus	3-4	S.W.	....	....	....	....	Cloudy.
	2 0 a. m.	23. 76	60	51	23. 68	51	50. 5	96	S. E.	10	. 50	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 a. m.	23. 75	58	50	23. 68	50	49	93	S.	12	. 72	....	Stratus	4-4	Hidden	....	....	2.25 a. m.	2.40 a. m.	. 02	....	Cloudy.
	4 0 a. m.	23. 76	59	50	23. 69	50	50	100	S. W.	12	. 72	....	Fog	....	Cirrus	2-4	S.W.	....	....	....	....	Foggy.
	5 0 a. m.	23. 76	59	50	23. 69	50	49	93	S. W.	16	1. 28	....	Fog in valley		Cir., cum	3-4	S.W.	....	....	....	....	Cloudy.
	6 0 a. m.	23. 76	58	50	23. 69	50	48	86	S. W.	12	. 72	....	0	0	Cir., cum	3-4	S.W.	....	....	....	....	Cloudy.
	7 14 a. m.	23. 76	56	52	23. 69	52	49	79	W.	16	1. 28	....	Hazy	....	Cir., cum	3-4	W.	....	....	....	....	Cloudy.
	8 0 a. m.	23. 77	56	54	23. 70	54	52	87	S. W.	12	. 72	....	Hazy	....	Cir., cum	3-4	0	....	....	....	....	Cloudy.
	9 0 a. m.	23. 78	57	55	23. 71	55	52	80	N. W.	8	. 32	....	Hazy	....	Cir., cum	3-4	S.W.	....	....	....	....	Cloudy.
	10 0 a. m.	23. 79	60	59	23. 71	59	55	76	W.	4	. 08	....	Hazy	....	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	11 0 a. m.	23. 80	61	55	23. 72	55	53	87	N. W.	8	. 32	....	Dense fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 m ..	23. 80	61	56	23. 72	56	53	81	N. W.	4	. 08	220	Fog in valley .		Cumulus	1-4	S.W.	....	....	....	....	Foggy; distant thunder-storm in N. W.
	1 0 p. m.	23. 78	61	54	23. 70	54	52	87	N. E.	4	. 08	....	Dense fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 p. m.	23. 77	60	54	23. 69	54	52	87	N. W.	4	. 08	....	Dense fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 p. m.	23. 76	60	54	23. 68	54	53	93	N. W.	4	08	....	Dense fog	....	Hidden	....	....	....	....	....	....	Foggy; distant thunder-storm in N. E.
	4 14 p. m.	23. 76	59	51	23. 69	51	50	93	E.	4	. 08	...	Nimbus	4-4	Hidden	...	....	3.20 p. m.	....	. 24	....	Heavy rain; distant thunder-st'rm in E.
	5 0 p. m.	23. 76	58	50	23. 69	50	49	93	N. E.	10	. 50	....	Nimbus	4-4	Hidden	....	....	....	....	. 07	....	Light rain.
	6 0 p. m.	23. 75	61	51	23. 67	51	49	86	N. E.	8	. 32	....	Hazy	....	Cumulus	2-4	S.W.	....	5.20 p. m.	. 03	....	Fair.
	7 0 p. m.	23. 74	55	50	23. 68	50	49	93	N. E.	22	2. 42	....	Hazy	....	Cir., cum	4-4	N. E.	....	....	....	....	Cloudy.
	8 0 p. m.	23. 76	59	52	23. 69	52	51. 5	96	N. E.	18	1. 62	....	Fog	....	Cirrus	2-4	0	....	....	....	....	Foggy.
	9 0 p. m.	23. 78	61	53	23. 70	53	53	100	N. E.	10	. 50	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 p. m.	23. 78	61	52	23. 70	52	52	100	N E.	8	. 32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 39 p. m.	23. 78	60	52	23. 70	52	52	100	N. E.	8	. 32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 p. m.	23. 77	62	50	23. 69	50	49	93	N. E.	8	. 32	....	0	0	Cirrus	2-4	0	....	....	....	....	Fair.
Knoxville, Tenn	7 0 a. m.	29. 19	73	68	29. 065	67	65	87	E.	3	. 04	....	Stratus	1-4	Cir.-cum	3-4	0	....	....	....	....	Cloudy.
	7 7 a. m.	29. 19	73	68	29. 065	67	65	87	E.	3	. 04	....	Stratus	1-4	Cir.-cum	3-4	0	....	....	....	....	Cloudy.
	11 32 a. m.	29. 20	77	76	29. 064	75	70	76	E.	2	. 02	102	0	0	Cumulus	4-4	0	....	....	....	....	Cloudy.
	2 0 p. m	29. 15	78	79	29. 012	78	70	65	N. E.	2	. 02	....	0	0	Cir.& cu.	2-4	0	....	....	....	....	Fair.
	4 7 p. m.	29. 12	80	83	28. 977	82	71	56	S.	4	. 08	...	0	0	Cir.& cu.	2-4	0	....	....	....	....	Fair.
	9 0 p. m.	29. 16	75	67	29. 030	66	64	90	N. E.	3	. 04	...	0	0	Cirrus	3-4	0	....	....	....	....	Clearing.
	10 32 p. m.	29. 17	74	67	29. 042	66	64	90	N.	4	. 08	....	0	0	0	0	0	6.30 p. m.	7.30 p. m.	. 17	....	Clear.

Meteorological record for May 31, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction. (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 76	60	50	23. 68	50	49. 5	96	N. E.	8	. 32	....	Light fog	....	Cirrus ..	3-4	......	....	....	....	....	Cloudy.
	2 0 a. m.	23. 76	60	50	23. 68	50	50	100	N. E.	13	. 84	...	Fog	....	Hidden .	....	......	....	....	....	....	Foggy.
	3 0 a. m.	23. 75	58	50	23. 68	50	49. 5	96	N. E.	18	1. 62	....	Light fog	....	0	0	0	....	....	....	....	Foggy.
	4 0 a. m.	23. 75	56	49	23. 68	49	48	93	N. E.	14	. 98	....	Light fog.	....	Cirrus ..	4-4	N. E.	....	....	....	....	Cloudy.
	5 0 a. m.	33. 75	55	49	23. 68	49	48. 5	96	N. E.	14	. 98	....	Fog.......	....	Hidden .	....	......	....	....	....	....	Foggy.
	6 0 a. m.	23. 76	55	49	23. 69	49	49	100	N. E.	14	. 98	....	Dense fog.	....	Hidden .	....	......	....	....	....	....	Foggy.
	7 14 a. m.	23. 77	53	46	23. 71	46	46	100	N. E.	16	1. 28	....	Dense fog	....	Hidden	....	......	6.40 a. m.	....	. 04	....	Light rain.
	8 0 a. m.	23. 78	52	46	23. 72	46	46	100	N. E.	18	1. 62	....	Dense fog.	....	Hidden	....	......	....	....	. 07	....	Light rain.
	9 0 a. m.	23. 80	52	47	23. 74	47	47	100	N. E.	16	1. 28	....	Dense fog	....	Hidden	....	......	....	8.45 a. m.	. 06	....	Foggy.
	10 0 a. m.	23. 82	54	47	23. 76	47	47	100	N. E.	16	1. 28	...	Dense fog	....	Hidden	....	......	....	....	....	....	Foggy.
	11 0 a. m.	23. 84	58	48	23. 77	48	48	100	N. E.	8	. 32	..	Dense fog	....	Hidden .	....	......	....	....	....	....	Foggy.
	12 0 m ..	23. 84	59	49	23. 77	49	49	100	N. E.	8	. 32	276	Dense fog	....	Hidden .	....	......	....	....	....	....	Foggy.
	1 0 p. m.	23. 85	61	50	23. 77	50	49. 5	96	N. E.	8	. 32	....	Light fog	....	Cirrus ..	1-4	E.	....	....	....	....	Fair.
	2 0 p. m.	23. 85	60	48	23. 77	48	48	100	N. E.	12	. 72	....	Dense fog	....	Hidden .	....	......	....	....	....	....	Foggy.
	3 0 p. m.	23. 84	56	46	23. 77	46	46	100	N. E.	12	. 72	....	Dense fog	....	Hidden .	....	......	....	....	....	....	Foggy.
	4 14 p. m.	23. 83	55	43	23. 76	43	43	100	N. E.	16	1. 28	...	Dense fog	....	Hidden .	....	......	....	....	....	....	Foggy.
	5 0 p. m.	23. 82	55	44	23. 75	44	44	100	N. E.	12	. 72	....	Dense fog	....	Hidden .	....	......	....	....	....	....	Foggy.
	6 0 p. m.	23. 82	55	43	23. 75	43	43	100	N. E.	16	1. 28	....	Dense fog	....	Hidden .	....	......	....	....	....	....	Foggy.
	7 0 p. m.	23. 83	55	42	23. 76	42	42	100	N. E.	18	1. 62	....	Dense fog	....	Hidden .	....	......	....	....	....	....	Foggy.
	8 0 p. m.	23. 84	56	42	23. 77	42	42	100	N. E.	20	2. 00	....	Dense fog	....	Hidden .	....	......	....	....	....	....	Foggy.
	9 0 p. m.	23. 85	58	42	23. 78	42	42	100	E.	24	2. 88	....	Dense fog	....	Hidden .	....	......	....	....	....	....	Foggy.
	10 0 p. m.	23. 86	57	43	23. 79	43	43	100	N. E.	23	2. 42	....	Dense fog.	....	Hidden .	....	......	....	....	....	....	Foggy.
	10 30 p. m.	23. 86	56	42	23. 79	42	42	100	N. E.	22	2. 42	....	Dense fog	....	Hidden .	....	......	....	....	....	....	Foggy.
	12 0 p. m.	23. 84	54	42	23. 78	42	42	100	E.	18	1. 62	....	Dense fog.	....	Hidden .	....	......	....	....	....	....	Foggy.
Knoxville, Tenn.	7 0 a. m.	29. 21	72	68	29. 117	67	64	81	N. E.	10	. 50	....	Hazy	....	0	0	0	....	....	....	....	Fair.
	7 7 a. m.	29. 24	72	68	29. 117	67	64	81	N. E.	10	. 50	...	Hazy	....	0	0	0	....	....	....	....	Fair.
	11 32 a. m.	29. 27	77	76	29. 134	75	70	76	E.	12	. 72	153	Hazy	....	Cumulus	2-4	E.	....	....	....	....	Fair.
	2 0 p. m.	29. 23	79	80	29. 089	79	69	58	N. E.	13	. 84	....	Hazy	....	Cumulus	3-4	E.	....	....	....	....	Cloudy.
	4 7 p. m.	29. 22	78	78	29. 082	77	69	63	N. E.	22	2. 42	....	Nimbus...	1-4	Cumulus	1-4	E.	....	....	....	....	Cloudy.
	9 0 p. m.	29. 31	75	70	29. 178	69	65	79	N. E.	12	. 72	....	0	0	Cir.-cum	2-4	N.	....	....	....	....	Fair.
	10 32 p. m.	20. 31	74	67	29. 180	66	62	78	N. E.	15	1. 12	....	0	0	0	0	0	....	....	....	....	Clear.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C..	1 0 a. m.	23. 85	53	43	23. 79	43	43	100	E.	16	1. 18	....	Dense fog	....	Hidden .	....	....	....	....	....	....	Foggy.
	2 0 a. m.	53. 85	51	44	23. 79	44	43. 5	96	E.	16	1. 28	....	Light fog .	....	0	0	0	....	....	....	....	Fair.
	3 0 a. m.	23. 84	50	44	23. 79	44	43	92	N. E.	14	. 98	....	Light fog .	....	0	0	0	....	....	....	....	Fair.
	4 0 a. m.	23. 84	50	45	23. 79	45	44	92	N. E.	8	. 32	....	Light fog	....	Cirrus ..	1-4	0	....	....	....	....	Fair.
	5 0 a. m.	23. 84	50	48	23. 79	48	47	92	N. E.	4	. 08	....	0	0	Cirrus ..	2-4	0	....	....	....	....	Fair.
	6 0 a. m.	23. 85	51	51	23. 79	51	48	79	N. E.	2	. 02	....	0	0	Cirrus ..	2-4	0	....	....	....	....	Fair.
	7 14 a. m.	23. 86	55	54	23. 79	54	51	80	N. E.	8	. 32	....	Hazy	....	Cir., cum	1-4	N. E.	....	....	....	....	Fair.
	8 0 a. m.	23. 88	58	55	23. 81	56	51	74	N. E.	4	. 08	....	Hazy	....	Cir., cum	1-4	N. E.	....	....	....	....	Fair.
	9 0 a. m.	23. 88	59	57	23, 81	57	52	69	N. E.	2	. 02	....	Hazy	....	Cirrus ...	1-8	0	....	....	....	....	Fair.
	10 0 a. m.	23. 89	61	57	23. 81	57	49	52	N. E.	4	. 08	....	Hazy	....	Cirrus ...	1-4	N. E.	....	....	....	....	Fair.
	11 0 a. m.	23. 89	62	58	23. 81	58	50	53	N. E.	3	. 04	....	Hazy	....	Cir., cum	1-4	N. E.	....	....	....	....	Fair.
	12 0 m ..	23. 89	62	59	23. 81	59	51	54	N. E.	2	. 02	282	Hazy	....	Cumulus	1-4	N. E.	....	....	....	....	Fair.
	1 0 p. m.	23. 88	63	57	23. 80	57	51	63	N. E.	4	. 08	....	Hazy	....	Cumulus	1-4	N. E.	....	....	....	....	Fair.
	2 0 p. m.	23. 88	63	56	23. 80	56	45	35	N. E.	8	. 32	....	Hazy	....	Cumulus	1-4	N. E.	....	....	....	....	Fair.
	3 0 p. m.	23. 88	65	56	23. 79	56	42	19	N. E.	6	. 18	....	Hazy	....	Cumulus	1-4	N. E.	....	....	....	....	Fair.
	4 14 p. m.	23. 88	64	54	23. 80	54	46	49	N. E.	8	. 32	....	Hazy	....	Cumulus	1-4	N. E.	....	....	....	....	Fair.
	5 0 p. m.	23. 88	63	53	23. 80	53	41	24	N. E.	8	. 32	....	Hazy	....	Cir.,cum	1-4	N. E.	....	....	....	....	Fair.
	6 0 p. m.	23. 87	61	53	23. 79	53	43	36	N. E.	8	. 32	....	Hazy	....	Cir.,cum	1-4	N. E.	....	....	....	....	Fair.
	7 0 p. m.	23. 84	53	44	23. 78	44	33	15	N. E.	16	1. 28	....	Hazy	....	Cir.,cum	1-4	0	....	....	....	....	Fair.
	8 0 p. m.	23. 85	54	43	23. 79	43	34	28	N. E.	18	1. 62	....	Hazy	....	Cirrus ..	1-4	0	....	....	....	....	Fair
	9 0 p. m.	23. 87	57	44	23. 80	44	40	68	E.	24	2. 88	....	0	0	Cumulus	3-4	E.	....	....	....	....	Cloudy.
	10 0 p. m.	23. 86	54	45	23. 80	45	44	92	S. E.	26	3. 38	....	Light fog .	....	Cumulus	1-4	S. E.	....	....	....	....	Foggy.
	10 39 p. m	23. 87	54	46	23. 81	46	45	92	E.	20	2. 00	...	Light fog .	....	0	0	0	....	....	....	....	Fair.
	12 0 p. m.	23. 86	53	46	23. 80	46	45	92	E.	18	1. 62	....	Light fog .	....	0	0	0	....	....	....	....	Fair.
Knoxville, Tenn .	7 0 a. m.	29. 39	71	61	29. 270	60	57	82	N. E.	10	. 50	....	0	0	Cirrus ..	2-4	0	....	....	....	....	Fair.
	7 7 a. m.	29. 39	71	61	29. 270	60	57	82	N. E.	10	. 50	....	0	0	Cirrus ..	2-4	0	....	....	....	....	Fair.
	11 32 a. m.	29. 38	72	71	29. 255	70	65	75	N. E.	4	. 08	....	0	0	Cirrus ..	1-8	0	....	....	....	....	Clear.
	2 0 p. m.	29. 32	76	77	29. 185	76	66	56	E.	6	. 18	..	0	0	Cir.-cum	1-4	0	....	....	....	....	Fair.
	4 7 p. m.	29. 28	77	80	29. 144	79	64	40	N. E.	12	. 72	272	0	0	Cumulus	1-8	E.	....	....	....	....	Clear.
	9 0 p. m.	29. 27	75	71	29. 138	70	66	79	N.	3	. 04	....	0	0	0	0	0	....	....	....	....	Clear.
	10 32 p. m.	29. 27	73	67	29. 145	66	61	73	E.	1	. 01	....	Stratus ...	1-8	0	0	0	....	....	....	....	Clear.

Meteorological record for June 2, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 85	53	46	23. 79	46	45	92	E.	18	1. 62	....	Fog in val'y	....	0	0	0	....	....	....	....	Fair.
	2 0 a. m.	23. 85	53	48	23. 79	48	47	93	E.	18	1. 62	....	0	0	0	0	0	....	....	....	....	Clear.
	3 0 a. m.	23. 85	53	48	23. 79	48	47. 5	96	E.	20	2. 00	....	Light fog	....	0	0	0	....	....	....	....	Fair.
	4 0 a. m.	23. 86	56	48	23. 79	48	48	100	E.	15	1. 12	....	Light fog	....	0	0	0	....	....	....	....	Fair.
	5 0 a. m.	23. 86	56	48	23. 79	48	48	100	E.	11	. 60	....	Light fog	....	0	0	0	....	....	....	....	Foggy.
	6 0 a. m.	23. 86	56	50	23. 79	50	49	93	E.	8	. 32	....	Light fog	....	0	0	0	....	....	....	....	Clear.
	7 14 a. m.	23. 87	57	54	23. 80	54	52	87	E.	10	. 50	....	Light fog	....	0	0	0	....	....	....	....	Fair.
	8 0 a. m.	23. 87	57	54	23. 80	54	52	87	E.	12	. 72	....	Light fog	....	0	0	0	....	....	....	....	Foggy.
	9 0 a. m.	23. 88	58	58	23. 81	58	55	81	E.	11	. 60	....	Light fog	....	Cumulus	1-4	E.	....	....	....	....	Fair.
	10 0 a. m.	23. 91	62	59	23. 83	59	56	81	E.	10	. 50	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	11 0 a. m.	23. 90	62	59	23. 82	59	56	81	E.	12	. 72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 m.	23. 90	62	60	23. 82	60	57	81	E.	18	1. 62	308	Light fog	....	Cumulus	1-4	E.	....	....	....	....	Fair.
	1 0 p. m.	23. 89	62	62	23. 81	62	57	72	E.	12	. 72	....	Light fog	....	Cumulus	1-4	E.	....	....	....	....	Fair.
	2 0 p. m.	23. 88	62	60	23. 80	60	57	82	E.	12	. 72	....	Light fog	....	Cumulus	2-4	E.	....	....	....	....	Fair.
	3 0 p. m.	23. 88	63	60	23. 80	60	56	77	E.	12	. 72	....	Hazy	....	Cumulus	2-4	E.	....	....	....	....	Fair.
	4 14 p. m.	23. 87	61	60	23. 79	60	56	77	E.	12	. 72	....	Light fog	....	Cumulus	3-4	E.	....	....	....	....	Cloudy.
	5 0 p. m.	23. 87	58	55	23. 80	55	51	74	E.	11	. 60	....	Fog	....	Hidden	....	....	....	....	....	....	Cloudy.
	6 0 p. m.	23. 86	60	53	23. 78	53	52. 5	97	E.	12	. 72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 0 p. m.	23. 86	60	52	23. 78	52	52	100	E.	12	. 72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 p. m.	23. 86	60	51	23. 78	51	51	100	E.	20	2. 00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 p. m.	23. 86	59	51	23. 79	51	51	100	S. E.	22	2. 42	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 p. m.	23. 85	57	51	23. 78	51	51	100	N. E.	16	1. 28	....	Light fog	....	Cumulus	3-4	E.	....	....	....	....	Cloudy.
	10 30 p. m.	23. 85	56	50	23. 78	50	50	100	E.	16	1. 28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 p. m.	23. 84	56	51	23. 77	51	51	100	S. E.	12	. 72	....	Nimbus	4-4	Hidden	....	....	11.15 p. m.	....	. 04	....	Light rain.
Knoxville, Tenn.	7 0 a. m.	29. 345	72	63	29. 222	62	55	61	E.	8	. 32	....	0	0	Cirrus	1-8	0	....	....	....	....	Clear.
	7 7 a. m.	29. 345	72	64	29. 222	63	56	61	E.	8	. 32	....	0	0	Cirrus	1-8	0	....	....	....	....	Clear.
	11 32 a. m.	29. 31	75	76. 5	29. 178	75. 5	63	45	S. E.	10	. 50	146	0	0	Cumulus	1-8	0	....	....	....	....	Clear.
	2 0 p. m.	29. 26	77	82	29. 132	81	64	34	N. E.	12	. 72	....	0	0	Cumulus	1-8	0	....	....	....	....	Clear.
	4 7 p. m.	29. 24	79	85	29. 099	84	65	31	N.	9	. 40	....	0	0	Cumulus	1-8	0	....	....	....	....	Clear.
	9 0 p. m.	29. 23	77	76	29. 094	75	69	72	E.	3	. 04	....	0	0	Cir.-cum	4-4	W.	....	....	....	....	Cloudy
	10 32 p. m.	29. 23	77	74. 5	29. 094	73. 5	68	74	N.	1	. 01	....	0	0	Cumulus	1-4	0	....	....	....	....	Fair.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.85	56	51	23.78	51	51	100	E.	12	.72	....	Nimbus	4-4	Hidden	....	....	....	....	.06	....	Light rain.
	2 0 a. m.	23.83	56	51	23.76	51	51	100	S. E.	13	.84	...	Dense fog	....	Hidden	....	....	....	1.43 a. m.	.03	....	Foggy.
	3 0 a. m.	23.82	55	50	23.75	50	50	100	S. E.	12	.72	....	Nimbus	4-4	Hidden	....	....	....	....	....	....	Foggy.
	4 0 a. m.	23.82	55	50	23.75	50	50	100	N.E.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 a. m.	23.83	55	50	23.76	50	50	100	E.	11	.60	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 a. m.	23.82	55	51	28.75	51	51	100	E.	16	1.28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 14 a. m.	23.81	55	51	23.74	51	51	100	E.	14	.98	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 a. m.	23.81	55	52	23.74	52	52	100	E.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 a. m.	23.82	55	53	23.75	53	53	100	E.	15	1.12	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 a. m.	23.82	59	53	23.75	53	53	100	E.	14	.98	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	11 0 a. m.	23.81	59	54	23.74	54	54	100	E.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 m	23.81	59	54	23.74	54	54	100	E.	8	.32	331	Light fog	....	Hidden	....	....	....	....	....	....	Foggy.
	1 0 p. m.	23.79	59	55	23.72	55	54.5	97	N.E.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 p. m.	23.78	60	57	23.70	57	55	87	E.	13	.84	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy,
	3 0 p. m.	23.76	58	56	23.69	56	55	93	E.	16	1.28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 14 p. m.	23.73	58	55	23.66	55	53.5	90	N.E.	27	3.64	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 p. m.	23.73	61	54	23.66	54	53.5	97	E.	18	1.62	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 p. m.	23.74	61	53	23.66	53	52	93	E.	20	2.00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 0 p. m.	23.74	62	52	23.66	52	52	100	E.	24	2.88	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 p. m.	23.73	59	51	23.66	51	51	100	E.	24	2.88	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 p. m.	23.73	58	51	23.66	51	51	100	E.	16	1.28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 p. m.	23.73	59	52	23.66	52	52	100	E.	12	.72	....	Fog	....	Hidden	....	....	9.15 p. m.	....	.18	....	Heavy rain.
	10 39 p. m.	23.71	58	52	23.64	52	52	100	E.	10	.50	....	Nimbus	4-4	Hidden	....	....	....	....	.05	....	Light rain.
	12 0 p. m.	23.70	58	52	23.63	52	52	100	E.	6	.18	....	Nimbus	4-4	Hidden	....	....	....	....	.21	....	Heavy rain.
Knoxville, Tenn.	7 0 a. m.	29.22	74	70	29.092	69	64	75	N. E.	8	.32	....	0	0	Cumulus	1-8	0	....	....	....	....	Clear.
	7 7 a. m.	29.22	74	70	29.092	69	64	75	N. E.	8	.32	....	0	0	Cumulus	1-8	0	....	....	....	....	Clear.
	11 32 a. m.	29.20	81	82	29.054	81	70	55	E.	3	.04	123	0	0	Cumulus	4-4	0	....	....	....	....	Cloudy.
	2 0 p. m.	29.13	82	86	28.982	85	70	44	S.	5	.12	....	Cum.-strat.	1-4	Cumulus	2-4	0	....	....	....	....	Cloudy.
	4 7 p. m.	29.10	84	87	28.946	86	72	47	S.E.	4	.08	....	0	0	Cumulus	3-4	E.	....	....	....	....	Cloudy.
	9 0 p. m.	29.10	79	73	28.959	72	69	85	S.W.	2	.02	....	Stratus	2-4	Cumulus	2-4	0	....	....	....	....	Cloudy.
	10 32 p. m.	29.08	79	71.5	28.939	70.5	68	87	E.	4	.08	....	Stratus	1-4	Cumulus	3-4	0	6.30 p. m.	7.00 p. m.	.01	....	Cloudy.

Meteorological record for June 4, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.70	58	51	23.63	51	51	100	S. E.	6	.18	....	Nimbus	4-4	Hidden	....	....	....	....	.08	....	Light rain.
	2 0 a. m.	23.69	56	51	23.62	51	51	100	S. W.	18	1.62	....	Fog	....	Hidden	....	....	....	1.25 a. m.	.03	....	Foggy.
	3 0 a. m.	23.68	56	52	23.61	52	52	100	S.	12	.72	....	Nimbus	4-4	Hidden	....	....	2.45 a. m.	....	.07	....	Heavy rain.
	4 0 a. m.	23.68	56	52	23.61	52	52	100	S. W.	10	.50	....	Nimbus	4-4	Hidden	....	....	....	....	.27	....	Light rain.
	5 0 a. m.	23.69	55	52	23.62	52	52	100	S. W.	12	.72	....	Nimbus	4-4	Hidden	....	....	....	....	.04	....	Light rain.
	6 0 a. m.	23.69	56	55	23.62	55	55	100	S. W.	6	.18	....	Fog	....	Hidden	....	....	....	5.00 a. m.	.02	....	Foggy.
	7 14 a. m.	23.70	55	58	23.63	58	58	100	S. W.	8	.32	....	Dense fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 a. m.	23.69	56	57	23.62	57	56	94	S. W.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 a. m.	23.70	59	60	23.63	60	57	82	S. W.	8	.32	....	0	0	Cumulus.	4-4	S.	....	....	....	....	Cloudy.
	10 0 a. m.	23.68	61	64	23.60	64	61	83	S. W.	8	.32	....	Hazy	....	Cumulus.	3-4	S. W.	....	....	....	....	Cloudy.
	11 0 a. m.	23.67	60	59	23.60	59	58	94	S. W.	8	.32	....	Fog	....	Cumulus.	2-4	S. W.	....	....	....	....	Cloudy.
	12 0 m.	23.65	59	59	23.58	59	58	94	S. W.	8	.32	301	Light fog	....	Cumulus.	3-4	S. W.	11.20 a. m.	11.45 a. m.	.03	....	Cloudy.
	1 0 p. m.	23.64	62	65	23.56	65	61	78	S.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 p. m.	23.63	62	60	23.55	60	59	94	S. W.	10	.50	....	Light fog	....	Cumulus.	4-4	0	....	....	....	....	Cloudy.
	3 0 p. m.	23.62	60	59	23.55	59	58	94	S. W.	8	.32	....	Fog	....	Cumulus.	1-4	0	....	....	....	....	Cloudy.
	4 14 p. m.	23.62	58	56	23.55	56	55	93	W.	8	.32	....	Fog	....	Hidden	....	....	3.10 p. m.	....	.04	....	Light rain.
	5 0 p. m.	23.60	59	58	23.53	58	56	88	W.	8	.32	....	Fog	....	Cumulus.	2-4	0	....	4 30 p. m.	.02	....	Cloudy.
	6 0 p. m.	23.60	59	57	23.53	57	55	87	W.	4	.08	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 0 p. m.	23.60	59	53	23.53	53	52	93	S. W.	8	.32	....	Light fog	....	Cumulus.	1-4	0	....	....	....	....	Fair.
	8 0 p. m.	23.60	59	52	23.53	52	51	93	W.	16	1.28	...	0	0	Cir., cum	2-4	0	....	....	....	....	Fair.
	9 0 p. m.	23.60	58	52	23.53	52	52	100	W.	12	.72	...	Dense fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 p. m.	23.60	58	53	23.53	53	53	100	W.	16	1.28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 39 p. m.	23.60	58	52	23.53	52	52	100	W.	20	2.00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 p. m.	23.58	57	52	23.51	52	52	100	N. W.	18	1.62	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
Knoxville, Tenn.	7 0 a. m.	29.08	77	70	28.944	69	67	90	E.	2	.02	....	Stratus	1-4	Cir., cum	3-4	0	....	....	....	....	Cloudy.
	7 7 a. m.	29.08	77	70.5	28.944	69.5	67.5	90	E.	2	.02	...	Stratus	1-4	Cir., cum	3-4	0	....	....	....	....	Cloudy.
	11 32 a. m.	29.04	82	80	28.892	79	70	61	S.	4	.08	87	Nimbus	2-4	Cumulus.	2-4	S. W.	....	....	....	....	Threatening.
	2 0 p. m.	28.96	84	83	28.806	82	71	56	S. W.	8	.32	....	Stratus	2-4	Cu. & cir.	1-4	....	....	....	....	....	Cloudy.
	4 7 p. m.	28.96	82	80	28.812	79	72	69	S.	8	.32	....	0	0	Cumulus.	2-4	....	12.10 p. m.	....	.08	...	Clearing.
	9 0 p. m.	28.94	78	76	28.802	75	70	76	S. W.	6	.18	....	Cum-strat.	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	10 32 p. m.	28.95	79	73	28.809	72	69	85	S. W.	6	.18	....	Stratus	2-4	Cir., cum	1-4	S. W.	3.15 p. m.	3.30 p. m.	....	....	Cloudy.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 56	57	53	23. 49	53	53	100	W.	24	2. 88	....	Dense fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 a. m.	23. 55	57	53	23. 48	53	53	100	W.	28	3. 92	....	Dense fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 a. m.	23. 54	57	53	23. 47	53	53	100	S.W.	28	3. 92	....	Dense fog	....	Hidden	....	....	2. 15 a. m.	2. 35 a.m.	.02	....	Foggy.
	4 0 a. m.	23. 55	56	52	23. 48	52	52	100	N. W.	24	2. 88	....	Dense fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 a. m	22. 56	56	52	23. 49	52	52	100	W.	28	3. 92	....	Dense fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 a. m.	23. 57	56	52	23. 50	52	52	100	W.	24	2. 88	....	Dense fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 14 a. m.	23. 59	56	53	23. 52	53	53	100	S.W.	22	2. 42	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 a. m.	23. 60	56	54	23. 53	54	54	100	S.W.	22	2. 42	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 a. m.	23. 61	56	53	23. 54	53	53	100	N. W.	20	2. 00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 a. m.	23. 62	57	54	23. 55	54	54	100	N. W.	20	2. 00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	11 0 a. m.	23. 62	57	55	23. 55	55	54	93	N. W.	20	2. 00	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	12 0 m.	23. 62	59	56	23. 55	56	55	94	N. W.	14	. 98	403	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	1 0 p. m.	23. 60	59	56	23. 53	56	56	100	W.	20	2. 00	....	Fog	....	Hidden	....	....	12. 40 p.m.	12. 55 p.m.	.09	....	Foggy.
	2 0 p. m.	23. 60	59	56	23. 53	56	56	100	N. W.	20	2, 00	....	Fog	....	Hidden	....	....	1. 20 p.m.	1. 45 p.m.	.44	....	Foggy.
	3 0 p. m.	23. 59	58	56	23. 52	56	56	100	N. W.	18	1. 62	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 14 p. m.	23. 59	61	57	23. 51	57	56	94	N. W.	16	1. 28	....	Fog	....	Cir., cum	2-4	0	....	....	....	....	Cloudy.
	5 0 p. m.	23. 61	60	54	23. 54	54	54	100	N. W.	16	1. 28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 p. m.	23. 61	62	54	23. 53	54	54	100	W.	16	1. 28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 0 p. m.	23. 61	60	52	23. 54	52	52	100	W.	20	2. 00	....	Nimbus	4-4	Hidden	....	....	6. 08 p.m.	....	.44	....	Heavy rain.
	8 0 p. m.	23. 62	57	52	23. 55	52	52	100	W.	26	3. 38	....	Fog	....	Hidden	....	....	....	7. 05 p.m.	.01	....	Foggy.
	9 0 p. m.	23. 63	57	53	23. 56	53	53	100	W.	24	2. 88	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 p. m.	23. 62	56	53	23. 55	53	53	100	N. W.	26	3. 38	....	Nimbus	4-4	Hidden	....	....	9. 18 p.m.	....	.13	....	Heavy rain.
	10 39 p. m.	23. 62	56	52	23. 55	52	52	100	N. W.	24	2. 88	....	Dense fog	....	Hidden	....	....	....	10. 20 p.m.	.02	....	Foggy.
	12 0 p. m.	23. 61	56	52	23. 54	52	52	100	N. W.	22	2. 42	....	Dense fog	....	Hidden	....	....	10. 45 p.m.	11. 30 p.m.	.08	....	Foggy.
Knoxville, Tenn.	7 0 a. m.	29. 01	77	72	28. 874	71	69	90	S.W.	8	. 32	....	Stratus	1-4	Cirrus	3-4	....	....	....	....	....	Cloudy.
	7 7 a. m.	29. 01	77	72	28. 874	71	69	90	S.W.	8	. 32	....	Stratus	1-4	Cirrus	3-4	....	....	....	....	....	Cloudy.
	11 22 a. m.	29. 01	82	81. 5	28. 862	80. 5	72	65	S.W.	12	. 72	187	Cum.-strat.	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	2 0 p. m.	28. 95	82	85	28. 802	84	73	57	S.W.	12	. 72	....	Cum.-strat.	1-4	Cir. & cu.	1-4	0	....	....	....	....	Cloudy.
	4 7 p. m.	28. 96	80	76	28. 817	75	69	72	N. W.	12	. 72	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	9 0 p. m.	29. 01	75	71	28. 880	70	68	90	S.W.	12	. 72	...	Nimbus	4-4	Hidden	....	....	....	....	....	....	Light rain.
	10 32 p. m.	29. 01	77	69	28. 874	68	67	94	S.	8	. 32	....	Nimbus	4-4	Hidden	....	....	7. 45 p.m.	11. 30 p.m.	.19	....	Light rain.

Meteorological record for June 6, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 60	55	51	23. 54	51	51	100	N. W.	24	2. 88	....	Nimbus...	4·4	Hidden .	....	......	12.16 a. m.	....	.04	....	Light rain.
	2 0 a. m.	23. 58	54	49	23. 52	49	49	100	N. W.	24	2. 88	....	Dense fog.	....	Hidden .	....	......	....	1.23 a. m.	.02	....	Foggy.
	3 0 a. m.	23. 57	53	50	23. 51	50	50	100	N. W.	26	3. 38	....	Dense fog.	....	Hidden .	....	......	....	....	....	....	Foggy.
	4 0 a. m.	23. 58	54	51	23. 52	51	51	100	W.	24	2. 88	....	Nimbus...	4·4	Hidden .	....	......	3.27 a. m.	....	.06	....	Light rain.
	5 0 a. m.	23. 60	55	51	23. 54	51	51	100	W.	18	1. 62	....	Nimbus...	4·4	Hidden .	....	......	....	....	.02	....	Light rain.
	6 0 a. m.	23. 62	55	51	23. 56	51	51	100	W.	16	1. 28	....	Nimbus...	4·4	Hidden .	....	......	....	....	.03	....	Light rain.
	7 14 a. m.	23. 64	56	52	23. 57	52	52	100	W.	13	.84	....	Nimbus...	4·4	Hidden .	....	......	....	....	.02	....	Light rain.
	8 0 a. m.	23. 64	56	53	23. 57	53	53	100	W.	12	.72	....	Fog.......	....	Hidden .	...	......	....	7.20 a. m.	....	....	Foggy.
	9 0 a. m.	23. 65	56	54	23. 58	54	54	100	N. W.	12	.72	....	Fog	....	Hidden .	....	......	8.10 a. m.	8.50 a. m.	.06	....	Foggy.
	10 0 a. m.	23. 67	60	54	23. 60	54	54	100	W.	8	.32	....	Nimbus...	4·4	Hidden .	....	......	9.10 a. m.	....	.11	....	Light rain.
	11 0 a. m.	23. 68	57	54	23. 61	54	54	100	W.	16	1. 28	....	Nimbus...	4·4	Hidden .	....	......	....	....	.08	....	Light rain.
	12 0 m.	23. 65	58	53	23. 58	53	53	100	N. W.	16	1. 28	457	Nimbus...	4·4	Hidden .	....	......	....	12.10 p. m.	.03	....	Light rain.
	1 0 p. m.	23. 66	58	56	23. 59	56	55	93	N. W.	12	.72	....	Fog.......	....	Hidden .	....	......	....	....	....	....	Foggy.
	2 0 p. m.	23. 65	58	55	23. 58	55	55	100	N. W.	8	.32	....	Fog.......	....	Hidden .	....	......	....	....	....	....	Foggy.
	3 0 p. m.	23. 66	59	55	23. 59	55	55	100	N. W.	8	.32	....	Dense fog.	....	Hidden .	....	......	....	....	....	....	Foggy.
	4 14 p. m.	23. 67	60	54	23. 59	54	54	100	W.	8	.32	....	Dense fog.	....	Hidden .	...	......	....	....	....	....	Foggy.
	5 0 p. m.	23. 67	58	53	23. 60	53	53	100	N. W.	8	.32	....	Fog.......	....	Hidden .	....	......	4.22 p. m.	4.48 p. m.	.01	....	Foggy.
	6 0 p. m.	23. 68	58	53	23. 61	53	53	100	W.	16	1. 28	....	Fog.......	....	Cirrus ..	4·4	W.	....	....	....	....	Cloudy.
	7 0 p. m.	23. 69	58	52	23. 62	52	52	100	N. W.	16	1. 28	....	Fog.......	....	Hidden .	....	......	....	....	....	....	Foggy.
	8 0 p. m.	23. 70	58	52	23. 63	52	52	100	N. W.	12	.72	....	Fog.......	....	Hidden .	....	......	....	....	....	....	Foggy.
	9 0 p. m.	23. 72	58	52	23. 65	52	52	100	N.	10	.50	....	Fog.......	....	Hidden .	....	......	....	....	....	....	Foggy.
	10 0 p. m.	23. 73	58	52	23. 66	52	52	100	N. W.	4	.08	....	Fog.......	....	Cir., cum	3·4	......	....	....	....	....	Foggy.
	10 30 p. m.	23. 73	58	51	23. 66	51	51	100	N.	8	.32	....	Fog.......	....	Cirrus ..	2·4	......	....	....	....	....	Foggy.
	12 0 p. m.	23. 73	57	51	23. 66	51	51	100	N. W.	6	.18	....	Fog.......	....	Hidden .	....	......	....	....	....	....	Foggy.
Knoxville, Tenn.	7 0 a. m.	29. 06	75	69	28. 930	68	67	95	S. W.	6	.18	....	Stratus ...	4·4	Hidden .	....	......	....	....	....	....	Cloudy.
	7 7 a. m.	29. 06	75	69	28. 930	68	67	95	S. W.	6	.18	....	Stratus ...	4·4	Hidden .	....	......	....	11.30 p. m.	.02	....	Cloudy.
	11 32 a. m.	29. 095	80	77	28. 952	76	69	69	W.	9	.40	198	Stratus ..	4·4	Hidden .	....	......	....	....	....	....	Cloudy.
	2 0 p. m.	29. 05	83	81. 5	28. 899	80. 5	70. 5	58	W.	8	.32	....	Cum.-strat.	1·4	Cir. & cu	2·4	N. W.	....	....	....	....	Cloudy.
	4 7 p. m.	29. 045	83	84. 5	28. 894	83. 5	72. 5	56	S. W.	8	.32	....	Stratus ...	1·8	Cir. & cu	3·4	N. W.	8.15 a. m.	8.45 a. m.	.02	....	Cloudy.
	9 0 p. m.	29. 08	80	75	28. 937	74	70	81	W.	7	.24	....	0	0	Cir. & cu	4·4	S. W.	....	....	....	....	Cloudy.
	10 32 p. m.	28. 10	77	73	28. 964	72	69	85	S. W.	3	.04	...	0	0	Cirrus ..	2·4	0	8.00 p. m.	8.15 p. m.	.01	....	Fair.

Meteorological record for June 7, 1878.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.72	57	50	23.65	50	49	93	N.	8	.32	....	Light fog	......	Cir., cum	2-4	N.	......	......	....	....	Fair.
	2 0 a. m.	23.70	55	50	23.64	50	49	93	N.	12	.72	....	Light fog	......	0	0	0	......	......	....	....	Fair.
	3 0 a. m.	23.70	55	51	23.64	51	50.5	96	N. W.	10	.50	....	Fog	......	Hidden	....	......	......	......	....	....	Foggy.
	4 0 a. m.	23.71	55	51	23.65	51	51	100	N. W.	14	.98	....	Fog	......	Hidden	....	......	......	......	....	....	Foggy.
	5 0 a. m.	23.73	55	51	23.67	51	51	100	N. W.	12	.72	....	Fog	......	Hidden	....	......	......	......	....	....	Foggy.
	6 0 a. m.	23.74	54	51	23.68	51	51	100	N. W.	10	.50	....	Fog	......	Cumulus	1-4	0	......	......	....	....	Fair.
	7 14 a. m.	23.75	55	51	23.69	51	51	100	N. W.	11	.60	....	Fog	......	Cumulus	1-4	N. W.	......	......	....	....	Fair.
	8 0 a. m.	23.76	55	53	23.70	53	52	93	N. W.	9	.40	....	Hazy	......	Cumulus	1-4	N. W.	......	......	....	....	Fair.
	9 0 a. m.	23.77	56	58	23.70	58	56	88	W.	6	.18	....	Hazy	......	Cumulus	1-4	N. W.	......	......	....	....	Fair.
	10 0 a. m.	23.78	57	58	23.71	58	55	82	N. W.	6	.18	....	Hazy	......	Cumulus	3-4	N. W.	......	......	....	....	Cloudy.
	11 0 a. m.	23.78	62	60	23.70	60	55	71	N. W.	8	.32	....	Hazy	......	Cumulus	2-4	N. W.	......	......	....	....	Fair.
	12 0 m...	23.79	62	61	23.71	61	56	71	N. W.	4	.08	230	Hazy	......	Cumulus	3-4	N. W.	......	......	....	....	Cloudy.
	1 0 p. m.	23.80	65	61	23.71	61	56	71	N. W.	8	.32	....	Hazy	......	Cumulus	3-4	N. W.	......	......	....	....	Cloudy.
	2 0 p. m.	23.79	64	58	23.71	58	54	76	W.	8	.32	....	Hazy	......	Cumulus	3-4	W.SE.	......	......	....	....	Cloudy.
	3 0 p. m.	23.78	63	57	23.70	57	53	75	N. W.	10	.50	....	Hazy	......	Cumulus	3-4	N. W.	......	......	....	....	Cloudy.
	4 14 p. m.	23.77	64	60	23.69	60	54	65	N.	12	.72	....	Hazy	......	Cumulus	2-4	N. W.	......	......	....	....	Fair.
	5 0 p. m.	23.76	63	59	23.68	59	55	76	N. W.	12	.72	....	Hazy	......	Cumulus	1-4	N.	......	......	....	....	Fair.
	6 0 p. m.	23.77	62	56	23.69	56	53	81	N. W.	12	.72	....	Hazy	......	Cumulus	1-4	0	......	......	....	....	Fair.
	7 0 p. m.	23.77	57	53	23.70	53	51	86	N. W.	8	.32	....	Hazy	......	Cir., cum	2-4	N. W.	......	......	....	....	Fair.
	8 0 p. m.	23.77	58	52	23.70	52	49	79	N.	8	.32	....	Hazy	......	Cirrus	2-4	0	......	......	....	....	Fair.
	9 0 p. m.	23.79	59	52	23.72	52	47	66	N. W.	8	.32	....	Hazy	......	Cirrus	1-4	0	......	......	....	....	Fair.
	10 0 p. m.	23.79	59	52	23.72	52	47	66	N.	4	.08	....	Hazy	......	Cirrus	1-4	0	......	......	....	....	Fair.
	10 39 p. m.	23.79	59	51	23.72	51	48	79	S.W.	4	.08	....	Hazy	......	Cumulus	2-4	S.W.	......	......	....	....	Fair.
	12 0 p. m.	23.79	59	51	23.72	51	47	72	S.	4	.08	....	Hazy	......	Cumulus	2-4	S.W.	......	......	....	....	Fair.
Knoxville, Tenn.	7 0 a. m.	29.18	77	68	29.044	67	66	94	E.	3	.04	....	Fog	......	Hidden	....	......	......	......	....	....	Foggy.
	7 7 a. m.	29.18	77	68	29.041	67	66	94	E.	3	.04	....	Fog	......	Hidden	....	......	......	......	....	....	Foggy.
	11 32 a. m.	29.18	79	81.5	29.039	80.5	66	42	N. E.	8	.32	99	0	0	Cumulus	2-4	N. E.	......	......	....	....	Fair.
	2 0 p. m.	29.17	82	85	29.022	84	68	40	N.	4	.08	....	0	0	Cumulus	1-4	N.	......	......	....	....	Fair.
	4 7 p. m.	29.15	84	85	28.996	84	67	37	N.	10	.60	....	0	0	Cir. & cu	2-4	N.	......	......	....	....	Fair.
	9 0 p. m.	29.15	80	76	29.007	75	67	63	N. E.	4	.08	....	0	0	Cirrus	1-8	0	......	......	....	....	Clear.
	10 32 p. m.	29.16	79	74	29.019	73	67	71	E.	2	.02	....	0	0	Cirrus	1-4	0	......	......	....	....	Fair.

Meteorological record for June 8, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 78	57	50	23. 71	50	46	72	S. E.	4	.08		Hazy		Cumulus	2-4	N. W.					Fair.
	2 0 a. m.	23. 77	57	50	23. 70	50	47	79	S. E.	3	.04		Hazy		Cumulus	1-4	N. W.					Fair.
	3 0 a. m.	23. 77	57	50	23. 70	50	48	86	S. E.	6	.18		Hazy		Cirrus	1-4	0					Fair.
	4 0 a. m.	23. 77	56	49	23. 70	49	48	93	S. E.	6	.18		0	0	0	0	0					Clear.
	5 0 a. m.	23. 77	56	49	23. 70	49	48	93	S. E.	2	.02		0	0	Cirrus	1-8	0					Clear.
	6 0 a. m.	23. 77	56	53	23. 70	53	50	78	S. E.	2	.02		0	0	Cirrus	1-4	0					Fair.
	7 14 a. m.	23. 78	56	51	23. 71	51	48	79	S. E.	5	.12		Fog		Hidden							Foggy.
	8 0 a. m.	23. 79	57	57	23. 72	57	52	69	S. E.	3	.04		0	0	Cirrus	1-4	0					Fair.
	9 0 a. m.	23. 79	58	59	23. 72	59	54	70	E.	3	.04		Hazy		Cumulus	1-4	W.					Clear.
	10 0 a. m.	23. 80	59	60	23. 73	60	55	71	S.	2	.02		Hazy		Cumulus	3-4	W.					Cloudy.
	11 0 a. m.	23. 79	59	61	23. 72	61	56	71	S.	2	.02		Hazy		Cumulus	3-4	W.					Cloudy.
	12 0 m.	23. 80	58	60	23. 73	60	55	71	S. W.	4	.08	138	Hazy		Cumulus	4-4	W.					Cloudy.
	1 0 p. m.	23. 77	57	60	23. 70	60	55	71	S. W.	2	.02		0	0	Cumulus	4-4	W.					Cloudy.
	2 0 p. m.	23. 78	60	59	23. 70	59	54	70	S. W.	4	.08		Hazy		Cumulus	4-4	W.					Cloudy.
	3 0 p. m.	23. 79	60	55	23. 71	55	53	87	E.	4	.08		Fog		0	0	0					Foggy.
	4 14 p. m.	23. 78	61	52	23. 70	52	51	93	E.	8	.32		Fog		Hidden							Foggy.
	5 0 p. m.	23. 78	59	51	23. 71	51	51	100	E.	12	.72		Fog		Hidden							Foggy.
	6 0 p. m.	23. 77	57	50	23. 71	50	49. 5	96	E.	12	.72		Fog		Hidden							Foggy.
	7 0 p. m.	23. 77	55	49	23. 70	49	49	100	E.	12	.72		Fog		Hidden							Foggy.
	8 0 p. m.	23. 78	61	50	23. 70	50	49	93	E.	14	.98		Fog		Hidden							Foggy.
	9 0 p. m.	23. 80	60	47	23. 72	47	47	100	E.	20	2.00		Fog		Hidden			8.10 p. m.	8.40 p. m.	.04		Foggy.
	10 0 p. m.	23. 81	57	47	23. 74	47	47	100	E.	16	1.28		Fog		Hidden							Foggy.
	10 39 p. m.	23. 79	56	47	23. 72	47	47	100	E.	18	1.62		Fog		Hidden							Foggy.
	12 0 p. m.	23. 78	53	45	23. 72	45	45	100	E.	16	1.28		Nimbus	4-4	Hidden			11.25 p. m.		.01		Light rain.
Knoxville, Tenn.	7 0 a. m.	29. 16	72	70	29. 037	69	63	70	N. E.	12	.72		0	0	Cirrus	1-4	0					Fair.
	7 7 a. m.	29. 16	72	70	29. 037	69	63	70	N. E.	12	.72		0	0	Cirrus	1-4	0					Fair.
	11 32 a. m.	29. 15	80	81. 5	29. 007	80. 5	69	53	S. W.	6	.18	163	Hazy		Cir. & cu	1-4	W.					Fair.
	2 0 p. m.	29. 12	82	85	29. 072	84	70	46	N. E.	6	.18		Hazy		Cir. & cu	3-4	0					Cloudy.
	4 7 p. m.	29. 11	84	87	28. 956	86	73	51	N. E.	12	.72		Hazy		Cir. & cu	4-4	0					Cloudy.
	9 0 p. m.	29. 16	80	77	29. 017	76	71	76	S. W.	4	.08		Cum.-strat.	4-4	Hidden							Cloudy.
	10 32 p. m.	29. 17	81	76	29. 024	75	70	76	S.	1	.01		Cum.-strat.	4-4	Hidden							Cloudy.

Meteorological record for June 9, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 78	51	44	23. 72	44	44	100	E.	16	1. 28	4-4	Nimbus...	4-4	Hidden .	....	......	....	....	. 06	....	Light rain.
	2 0 a. m.	23. 77	51	43	23. 71	43	43	100	E.	20	2. 00	....	Fog........	....	Hidden .	....	......	....	1.41 a. m.	. 03	....	Foggy.
	3 0 a. m.	23. 77	50	42	23. 72	42	42	100	E.	16	1. 28	....	Dense fog.	....	Hidden .	....	......	....	....	....	....	Foggy.
	4 0 a. m.	23. 77	49	41	23. 72	41	41	100	E.	14	. 98	....	Fog........	....	Hidden .	....	......	....	....	....	....	Foggy.
	5 0 a. m.	23. 77	49	43	23. 72	43	43	100	E.	9	. 40	....	Fog........	....	Hidden .	....	......	....	....	....	....	Foggy.
	6 0 a. m.	23. 78	50	46	23. 73	46	46	100	S.	8	. 32	....	Fog........	....	Hidden .	....	......	....	....	....	....	Foggy.
	7 14 a. m.	23. 78	49	47	23. 73	47	47	100	S. W.	12	. 72	....	Fog........	....	Hidden .	....	......	....	....	....	....	Foggy.
	8 0 a. m.	23. 78	50	48	23. 73	48	48	100	S. W.	12	. 72	....	Fog........	....	Hidden .	....	......	....	....	....	....	Foggy.
	9 0 a. m.	23. 79	52	54	23. 73	54	53	93	S. W.	8	. 32	....	Fog........	....	Hidden .	....	......	....	....	....	....	Foggy.
	10 0 a. m.	23. 80	55	56	23. 73	56	54	87	W.	4	. 08	....	Fog........	....	Hidden .	....	......	....	....	....	....	Foggy.
	11 0 a. m.	23. 80	55	55	23. 73	55	53	87	W.	4	. 08	....	Fog........	....	Hidden .	....	......	....	....	....	....	Foggy.
	12 0 m ..	23. 80	56	59	22. 73	59	56	82	W.	4	. 08	272	Fog........	....	Hidden .	....	......	....	....	....	....	Foggy.
	1 0 p. m.	23. 78	56	57	23. 71	57	54	81	W.	4	. 08	....	Fog........	....	Hidden .	....	......	....	....	....	....	Foggy.
	2 0 p. m.	23. 78	57	57	23. 71	57	54	81	W.	4	. 08	....	Fog........	....	Hidden .	....	......	....	....	....	....	Foggy.
	3 0 p. m.	23. 77	58	54	23. 70	54	53	93	W.	4	. 08	....	Fog........	....	Hidden .	....	......	....	....	....	....	Foggy.
	4 14 p. m.	23. 77	62	55	23. 69	55	53	87	N. W.	4	. 08	....	Fog........	....	Hidden .	....	......	....	....	....	....	Foggy.
	5 0 p. m.	23. 76	58	52	23. 69	52	51	93	N. W.	3	. 04	....	Fog........	....	Hidden .	....	......	....	....	....	....	Foggy.
	6 0 p. m.	23. 76	58	54	23. 69	54	52	87	N. W.	1	. 01	....	Light fog	....	Cumulus	4-4	0	....	....	....	....	Cloudy.
	7 0 p. m.	23. 76	58	53	23. 69	53	52	93	0	0	0	....	0	0	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	8 0 p. m.	23. 77	58	51	23. 70	51	49	86	0	0	0	....	....		Cumulus	3-4	0	....	....	....	....	Cloudy.
	9 0 p. m.	23. 77	62	50	23. 09	50	49	93	N. W.	4	. 08	....	0	0	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	10 0 p. m.	23. 78	62	51	23. 70	51	49	86	W.	6	. 18	....	0	0	Cumulus	4-4	0	....	....	....	....	Cloudy.
	10 39 p. m.	23. 79	61	50	23. 71	50	49	93	S. W.	4	. 08	....	Light fog.	....	Cumulus	3-4	S. W.	....	....	....	....	Cloudy.
	12 0 p. m.	23. 77	57	47	23. 70	47	47	100	S. W.	12	. 72	....	Fog........	....	Hidden .	....	......	....	....	....	....	Foggy.
Knoxville, Tenn.	7 0 a. m.	29. 24	75	71	29. 110	70	63	61	N. E.	8	. 32	....	Cum.-strat	4-4	Hidden .	....	......	....	....	....	....	Cloudy.
	7 7 a. m.	29. 24	75	71	29. 110	70	63	61	N. E.	8	. 32	....	Cum.-strat	4-4	Hidden .	....	......	....	....	....	....	Cloudy.
	11 32 a. m.	29. 25	82	82	29. 102	81	71	59	N. E.	12	. 72	145	Hazy	....	Cumulus	4-4	S. W.	....	....	....	....	Cloudy.
	2 0 p. m.	29. 20	83	74. 5	29. 049	73. 5	66. 5	67	W.	16	1. 28	....	Cum.-strat	4-4	Hidden .	....	......	....	....	....	....	Cloudy.
	4 7 p. m.	29. 19	82	74. 5	29. 042	73. 5	67	66	N. W.	12	. 72	....	Cum.-strat	3-4	Cumulus	1-4	0	....	....	....	....	Cloudy.
	9 0 p. m.	29. 18	75	68	29. 050	67	64	84	S. W.	8	. 32	....	Cum.-strat	4-4	Hidden .	....	......	....	....	....	....	Cloudy.
	10 32 p. m.	29. 21	75	68. 5	29. 080	67. 5	64	81	S.	3	. 04	....	Cum.-strat	4-4	Hidden .	....	......	....	....	....	....	Cloudy.

Meteorological record for June 10, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM. Attached.	THERM. Exposed.	Corrected barometer.	HYGROM. Dry bulb.	HYGROM. Wet bulb.	Relative humidity.	WIND. Direction.	WIND. Velocity per hour.	WIND. Pressure per sq. ft.	WIND. Daily velocity.	LOWER CLOUDS. Kind.	LOWER CLOUDS. Amount.	UPPER CLOUDS. Kind.	UPPER CLOUDS. Amount.	UPPER CLOUDS. Direction, (moving from—)	RAIN OR SNOW. Commen'd.	RAIN OR SNOW. Ended.	Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 76	56	47	23. 69	47	47	100	W.	4	. 08	....	Fog.......	....	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	2 0 a. m.	23. 75	56	46	23. 68	46	45	92	S.W.	8	. 32	....	0	0	Cumulus	4-4	S.W.	....	....	....	....	Cloudy.
	3 0 a. m.	23. 75	55	48	23. 68	48	47	92	S.W.	6	. 18	....	0	0	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	4 0 a. m.	23. 75	56	50	23. 68	50	48	86	S.W.	3	. 04	....	Light fog.	....	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	5 0 a. m.	23. 75	56	51	23. 68	51	48	79	S.W.	2	. 02	....	Light fog.	....	Cumulus	4-4	S.W.	....	....	....	....	Cloudy.
	6 0 a. m.	23. 76	54	50	23. 70	50	49	93	S.W.	4	. 08	....	Stratus ...	1-4	Cumulus	2-4	W.	....	....	....	....	Cloudy.
	7 14 a. m.	23. 77	55	53	23. 70	53	51	86	S.W.	3	. 04	....	Stratus ...	2-4	Cumulus	2-4	W.	....	....	....	....	Cloudy.
	8 0 a. m.	23. 77	60	54	23. 69	54	52	87	S.W.	2	. 02	....	Stratus ...	1-4	Cumulus	2-4	W.	....	....	....	....	Cloudy.
	9 0 a. m.	23. 78	57	56	23. 71	56	53	81	S.W.	1	. 01	....	Stratus ...	2-4	Cumulus	1-4	W.	8.05 a. m.	8.40 a. m.	. 06	....	Cloudy.
	10 0 a. m.	23. 79	57	56	23. 72	56	53	81	W.	2	. 02	....	Fog.......	....	Cumulus	1-4	0	....	....	....	....	Foggy.
	11 0 a. m.	23. 79	57	56	23. 72	56	53	81	W.	2	. 02	...	Stratus ...	2-4	Cumulus	2-4	W.	10.50 a. m.	10.55 a. m.	. 01	....	Cloudy.
	12 0 m ..	23. 78	57	58	23. 71	58	54	78	S.W.	3	. 04	87	Stratus ...	2-4	Cumulus	1-4	0	....	....	....	....	Cloudy.
	1 0 p. m.	23. 78	57	62	23. 71	62	56	67	S.W.	6	. 18	....	Stratus ...	2-4	Cumulus	1-4	0	12.55 p. m.	12.45 p. m.	. 01	....	Cloudy.
	2 0 p. m.	23. 78	57	62	23. 71	62	56	67	S.W.	8	. 32	....	Hazy	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	3 0 p. m.	23. 77	59	60	23. 70	60	55	71	S. E.	8	. 32	....	Fog.......	....	Hidden .	....	....	....	....	....	....	Foggy.
	4 14 p. m.	23. 75	56	56	23. 68	56	53	81	S.W.	8	. 32	....	Hazy	....	Cumulus	4-4	0	....	....	....	....	Cloudy.
	5 0 p. m.	23. 75	56	55	23. 68	55	51	74	S.W.	10	. 50	....	Hazy	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	6 0 p. m.	23. 73	52	51	23. 67	51	50	93	S.W.	22	2. 42	....	0	0	Cumulus	2-4	0	....	....	....	....	Fair.
	7 0 p. m.	23. 73	52	49	23. 67	49	47	85	S.W.	16	1. 28	....	Hazy	....	Cumulus	2-4	W.	....	....	....	....	Fair.
	8 0 p. m.	23. 74	58	47	23. 67	47	46	92	S.W.	20	2. 00	....	0	0	Cumulus	4-4	S.W.	....	....	....	....	Cloudy.
	9 0 p. m.	23. 74	49	47	23. 69	47	46	92	S.W.	28	3. 92	....	0	0	Cumulus	4-4	0	....	....	....	....	Cloudy.
	10 0 p. m.	23. 72	53	47	23. 66	47	46	92	S.W.	34	5. 78	....	0	0	Cumulus	4-4	S.W.	....	....	....	....	Cloudy.
	10 30 p. m.	23. 72	52	47	23. 66	47	46	92	S.W.	32	5. 12	....	0	0	Cumulus	4-4	S.W.	....	....	....	....	Cloudy.
	12 0 p. m.	23. 72	51	47	23. 66	47	46. 5	96	S.W.	36	6. 48	....	0	0	Cumulus	4-4	S.W.	....	....	....	....	Cloudy.
Knoxville, Tenn.	7 0 a. m.	29. 23	73	67	29. 105	66	63	84	0	0	0	....	Stratus ...	4-4	Hidden .	....	....	....	....	....	....	Cloudy.
	7 7 a. m.	29. 23	73	67	29. 105	66	63	84	0	0	0	....	Stratus ...	4-4	Hidden .	....	....	....	....	....	....	Cloudy.
	11 32 a. m.	29. 23	78	75	29. 092	74	64	55	S.W.	10	. 50	147	Hazy	....	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	2 0 p. m.	29. 18	79	76. 5	29. 039	75. 5	64	50	S.W.	16	1. 28	....	Cum.-strat	4-4	Hidden .	....	....	....	....	....	....	Cloudy.
	4 7 p. m.	29. 16	78	76	29. 022	75	65	56	S.W.	12	. 72	....	Cum.-strat	4-4	Hidden .	....	....	....	....	....	....	Cloudy.
	9 0 p. m.	29. 17	70	71	29. 037	70	66	79	S.W.	4	. 08	....	Stratus...	4-4	Hidden .	....	....	....	....	....	....	Cloudy.
	10 32 p. m.	29. 17	75	71	29. 040	70	66	79	S.W.	4	. 08	....	Stratus ...	4-4	Hidden .	....	....	....	....	....	....	Cloudy.

Meteorological record for June 17, 1878.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 71	50	47	23. 66	47	46	92	S. W.	36	6. 48	....	0	0	Cumulus	4-4	S. W.	....	....	....	....	Cloudy.
	2 0 a. m.	23. 72	50	47	23. 67	47	46	92	S. W.	24	2. 88	....	0	0	Cumulus	4-4	S. W.	1. 23 a. m.	1. 38 a. m.	. 01	....	Cloudy.
	3 0 a. m.	23. 73	51	47	23. 67	47	46. 5	96	S. W.	24	2. 88	....	0	0	Cumulus	4-4	S. W.	....	....	....	....	Cloudy.
	4 0 a. m.	23. 74	52	47	23. 68	47	47	100	S. W.	28	3. 92	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	5 0 a. m.	23. 73	51	48	23. 67	48	48	100	W.	22	2. 42	....	Fog	....	Hidden	....	......	4. 07 a. m.	4. 40 a. m.	. 01	....	Foggy.
	6 0 a. m.	23. 74	51	48	22. 68	48	48	100	W.	24	2. 88	....	Nimbus	4-4	Hidden	....	......	5. 20 a. m.	....	. 02	....	Light rain.
	7 14 a. m.	23. 75	51	50	23. 69	50	50	100	W.	22	2. 42	....	Nimbus	4-4	Hidden	....	......	....	....	. 01	....	Light rain.
	8 0 a. m.	23. 76	52	50	23. 70	50	50	100	W.	15	1. 12	....	Nimbus	4-4	Hidden	....	......	....	....	. 01	....	Light rain.
	9 0 a. m.	23. 77	54	51	23. 71	51	51	100	W.	17	1. 44	....	Fog	....	Hidden	....	......	....	8. 45 a. m.	. 01	....	Foggy.
	10 0 a. m.	23. 78	57	53	23. 71	53	53	100	W.	16	1. 28	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	11 0 a. m.	23. 79	59	52	23. 72	52	52	100	W.	13	. 84	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	12 0 m.	23. 78	56	53	23. 71	53	53	100	S. W.	12	. 72	462	Nimbus	4-4	Hidden	....	......	11. 35 a. m.	....	. 01	....	Light rain.
	1 0 p. m.	23. 77	56	54	23. 70	54	54	100	S. W.	12	. 72	....	Nimbus	4-4	Hidden	....	......	....	....	. 14	....	Light rain.
	2 0 p. m.	23. 76	56	54	23. 69	54	54	100	S. W.	12	. 72	....	Nimbus	4-4	Hidden	....	......	....	....	. 08	....	Light rain.
	3 0 p. m.	23. 75	56	55	23. 68	55	55	100	W.	12	. 72	....	Fog	....	Hidden	....	......	....	2. 40 p. m.	. 02	....	Foggy.
	4 14 p. m.	23. 75	57	54	23. 68	54	54	100	W.	16	1. 28	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	5 0 p. m.	23. 76	59	54	23. 69	54	54	100	N. W.	12	. 72	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	6 0 p. m.	23. 76	55	53	23. 69	53	53	100	S. W.	10	. 50	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	7 0 p. m.	23. 76	56	53	23. 69	53	53	100	W.	16	1. 28	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	8 0 p. m.	23. 77	56	53	23. 70	53	53	100	S. W.	16	1. 28	....	Nimbus	4-4	Hidden	....	......	7. 35 p. m.	....	. 02	....	Light rain.
	9 0 p. m.	23. 76	56	52	23. 69	52	52	100	W.	8	. 32	....	Nimbus	4-4	Hidden	....	......	....	....	. 07	....	Light rain.
	10 0 p. m.	23. 77	56	52	23. 70	52	52	100	S. W.	20	2. 00	....	Nimbus	4-4	Hidden	....	......	....	....	. 08	....	Light rain.
	10 39 p. m.	23. 76	56	52	23. 69	52	52	100	S. W.	16	1. 28	....	Nimbus	4-4	Hidden	....	......	....	....	. 01	....	Light rain.
	12 0 p. m.	23. 76	56	52	23. 69	52	52	100	W.	8	. 32	....	Nimbus	4-4	Hidden	....	......	....	....	. 11	....	Light rain.
Knoxville, Tenn.	7 0 a. m.	29. 21	74	70	29. 082	69	64	79	S. W.	4	. 08	....	Stratus	4-4	Hidden	....	......	....	....	....	....	Cloudy.
	7 7 a. m.	29. 21	74	70	29. 082	69	64	79	S. W.	4	. 08	....	Stratus	4-4	Hidden	....	......	....	....	....	....	Cloudy.
	11 32 a. m.	29. 21	75	70	29. 080	69	67	90	S. W.	12	. 72	201	Nimbus	4-4	Hidden	....	......	....	....	....	....	Light rain.
	2 0 p. m.	29. 17	77	72	29. 034	71	70	95	S. W.	12	. 72	....	Nimbus	4-4	Hidden	....	......	1. 30 p. m.	....	....	....	Heavy rain.
	4 7 p. m.	29. 16	76	68	29. 024	67	67	100	S. W.	12	. 72	....	Nimbus	4-4	Hidden	....	......	3. 30 p. m.	2. 30 p. m.	1. 07	....	Heavy rain.
	9 0 p. m.	29. 15	73	70	29. 025	69	68	95	S. W.	4	. 08	....	Nimbus	4-4	Hidden	....	......	....	4. 30 p. m.	....	....	Light rain.
	10 32 p. m.	29. 15	75	70	29. 020	69	67	90	S.	8	. 32	....	Stratus	4-4	Hidden	....	......	9. 00 p. m.	10. 00 p. m.	. 63	....	Cloudy.

Meteorological record for June 12, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 75	55	52	23. 68	52	52	100	N. W.	14	. 98	....	Fog	....	Hidden	....	......	....	12.40 a. m.	. 03	....	Foggy.
	2 0 a. m.	23. 75	55	52	23. 68	52	52	100	W.	12	. 72	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	3 0 a. m.	23. 74	55	52	23. 67	52	52	100	W.	10	. 50	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	4 0 a. m.	23. 73	55	52	23. 66	52	52	100	S. W.	13	. 84	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	5 0 a. m.	23. 73	55	52	23. 66	52	52	100	W.	16	1. 28	....	Fog	....	Hidden	....	......	4.05 a. m.	4.25 a. m.	. 04	....	Foggy.
	6 0 a. m.	23. 74	55	52	23. 67	52	52	100	S. W.	14	. 98	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	7 14 a. m.	23. 74	55	52	23. 67	52	52	100	S. W.	12	. 72	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	8 0 a. m.	23. 75	56	53	23. 68	53	53	100	S. W.	11	. 60	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	9 0 a. m.	23. 75	56	53	23. 68	53	53	100	W.	10	. 50	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	10 0 a. m.	23. 76	55	54	23. 69	54	54	100	N. E.	12	. 72	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	11 0 a. m.	23. 75	57	56	23. 68	56	55	94	N. E.	10	. 50	....	Light fog	....	Cumulus	4-4	N. E.	....	....	....	....	Cloudy.
	12 0 m ..	23. 70	59	54	23. 69	54	54	100	S.	8	. 32	317	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	1 0 p. m.	23. 75	59	56	23. 68	56	55	94	N. E.	6	. 18	....	Light fog	....	Cumulus	4-4	N. E.	12.08 p. m.	12.26 p. m.	. 02	....	Cloudy.
	2 0 p. m.	23. 75	59	56	23. 68	56	55. 5	97	N. E.	8	. 32	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	3 0 p. m.	23. 74	59	53	23. 67	53	53	100	N. E.	9	. 40	....	Fog	....	Hidden	....	......	2.20 p. m.	2.45 p. m.	. 03	....	Foggy.
	4 14 p. m.	23. 74	59	53	23. 67	53	53	100	N. E.	12	. 72	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	5 0 p. m.	23. 75	58	52	23. 68	52	52	100	E.	8	. 32	....	Nimbus	4-4	Hidden	....	......	4.18 p. m.	....	. 09	....	Light rain.
	6 0 p. m.	23. 75	58	51	23. 68	51	51	100	E.	12	. 72	....	Nimbus	4-4	Hidden	....	......	....	....	. 12	....	Light rain.
	7 0 p. m.	23. 75	57	51	23. 68	51	51	100	E.	14	. 98	....	Nimbus	4-4	Hidden	....	......	....	....	. 09	....	Light rain.
	8 0 p. m.	23. 75	57	50	23. 68	50	50	100	E.	12	. 72	....	Nimbus	4-4	Hidden	....	......	....	....	. 05	....	Light rain.
	9 0 p. m.	23. 76	56	48	23. 69	48	48	100	E.	16	1. 28	....	Nimbus	4-4	Hidden	....	......	....	....	. 03	....	Light rain.
	10 0 p. m.	23. 76	55	48	23. 69	48	48	100	E.	14	. 98	....	Nimbus	4-4	Hidden	....	......	....	....	. 01	....	Light rain.
	10 39 p. m.	23. 75	55	48	23. 68	48	48	100	E.	13	. 84	....	Nimbus	4-4	Hidden	....	......	....	....	. 01	....	Light rain.
	12 0 p. m.	23. 75	53	47	23. 69	47	47	100	E.	12	. 72	....	Nimbus	4-4	Hidden	....	......	....	12.10 a. m.	. 03	....	Light rain.
Knoxville, Tenn..	7 0 a. m.	29. 20	74	70. 5	29. 062	69. 5	67	83	N.	4	. 08	....	Stratus	3-4	0	0	0	....	....	....	....	Clearing.
	7 7 a. m.	29. 20	74	70. 5	29. 062	69. 5	67	83	N.	4	. 08	....	Stratus	3-4	0	0	0	D'g night.	D'g night.	. 04	....	Clearing.
	11 32 a. m.	29. 18	76	76. 5	29. 047	75. 5	69. 5	72	N. E.	4	. 08	1. 25	Stratus	1-8	Cir. & cu	3-4	N. E.	....	....	....	....	Clearing.
	2 0 p. m.	29. 15	80	80	29. 027	79	70	61	N. E.	5	. 12	....	Stratus	1-4	Cir. & cu.	2-4	0	....	....	....	....	Cloudy.
	4 7 p. m.	29. 14	78	80	29. 002	79	71	65	N. E.	12	. 72	....	Stratus	1-4	Cumulus.	2-4	0	....	....	....	....	Cloudy.
	9 0 p. m.	29. 14	76	73	29. 007	72	68	80	N. E.	6	. 18	....	Stratus	1-4	0	0	0	....	....	....	....	Fair.
	10 32 p. m.	29. 14	76	72	29. 007	71	67	79	E.	4	. 08	....	0	0	Cir. & cu	2-4	S. W.	....	....	....	....	Fair.

Meteorological record for June 13, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C..	1 0 a. m.	23. 74	53	47	23. 68	47	47	100	N. E.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 a. m.	23. 73	53	47	23. 67	47	47	100	N. E	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 a. m.	23. 72	53	47	23. 66	47	47	100	E.	4	.08	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 0 a. m.	23. 72	54	48	23. 67	48	48	100	N. E.	2	.02	....	Light fog	....	Cumulus	2-4	W.	....	....	....	....	Fair.
	5 0 a. m.	23. 73	51	48	23. 67	48	48	100	W.	4	.08	....	Light fog	....	Cumulus	2-4	W.	....	....	....	....	Fair.
	6 0 a. m.	23. 73	54	48	23. 67	48	48	100	W.	2	.02	....	Light fog	....	Cumulus	1-4	W.	....	....	....	....	Fair.
	7 14 a. m.	23. 72	54	50	23. 66	50	50	100	N. E.	2	.02	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 a. m.	23. 72	54	52	23. 66	52	52	100	N.	2	.02	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 a. m.	23. 71	55	55	23. 64	55	55	100	N.	2	.02	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 a. m.	23. 72	56	57	23. 65	57	57	100	N.	1	.01	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	11 0 a. m.	23. 73	57	55	23. 66	55	54	93	N. W.	2	.02	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 m ..	23. 73	57	56	23. 66	56	55	94	W.	2	.02	177	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	1 0 p. m.	23. 73	58	56	23. 66	56	54	87	N. W.	4	.08	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 p. m.	23. 72	59	57	23. 65	57	55	87	W.	4	.08	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 p. m.	23. 70	61	57	23. 62	57	55	87	N. W.	2	.02	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 14 p. m.	23. 69	60	58	23. 61	58	56	88	N. W.	1	.01	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 p. m.	23. 69	58	55	23. 62	55	53	87	N. W.	4	.08	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 p. m.	23. 67	55	54	23. 61	54	52	87	S. W.	4	.08	....	Light fog	....	Cumulus	3-4	0	....	....	....	....	Foggy.
	7 0 p. m.	23. 67	53	51	23. 61	51	51	100	W.	10	.50	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 p. m.	23. 66	56	51	23. 59	51	50	93	S. W.	6	.18	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 p. m.	23. 66	56	48	23. 59	48	48	100	S. W.	10	.50	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 p. m.	23. 67	57	48	23. 60	48	48	100	E.	9	.40	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 39 p. m.	23. 67	56	48	23. 60	48	48	100	E.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 p. m.	23. 66	54	47	23. 60	47	47	100	E.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
Knoxville, Tenn .	7 0 a. m.	29. 14	74	68	29. 012	67	64	84	N. E.	6	.18	....	Stratus	1-8	Cir.-cum	3-4	S. W.	....	....	....	....	Cloudy.
	7 7 a. m.	29. 14	74	68	29. 012	67	64	84	N. E.	6	.18	....	Stratus	1-8	Cir.-cum	3-4	S. W.	....	....	....	....	Cloudy.
	11 33 a. m.	29. 14	79	78	28. 999	77	71	72	S. E.	4	.08	149	0	0	Cumulus	4-4	S. W.	....	....	....	....	Cloudy.
	2 0 p. m.	29. 09	81	78	28. 944	77	70	69	S. W.	16	1. 28	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Threatening.
	4 7 p. m.	29. 08	80	76	28. 937	75	71	81	E.	9	.40	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	9 0 p. m.	29. 02	75	68	28. 890	67	65	90	S. W.	5	.12	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Threatening.
	10 32 p. m.	29. 03	76	67	28. 897	66	65	94	E.	6	.18	....	Nimbus	4-4	Hidden	....	....	9.45 p. m.	....	.07	....	Light rain.

Meteorological record for June 14, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.64	54	46	23.58	46	46	100	S. E.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 a. m.	23.63	53	47	23.57	47	47	100	S. W.	12	.72	....	Nimbus	4-4	Hidden	....	....	1.35 a. m.	....	.01	....	Light rain.
	3 0 a. m.	23.62	52	48	23.56	48	48	100	S. W.	16	1.28	....	Fog	....	Hidden	....	....	....	2.49 a. m.	.04	....	Foggy.
	4 0 a. m.	23.61	52	48	23.55	48	48	100	S. W.	14	.98	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 a. m.	23.60	52	48	23.54	48	48	100	S. W.	22	2.42	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 a. m.	22.60	52	49	23.54	49	49	100	S.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 14 a. m.	23.60	52	50	23.54	50	50	100	S. E.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 a. m.	23.61	52	50	23.55	50	50	100	S. E.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 a. m.	23.62	53	51	23.56	51	51	100	S. E.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 a. m.	23.61	55	52	23.55	52	52	100	S. E.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	11 0 a. m.	23.62	57	53	23.55	53	53	100	S. E.	6	.18	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 m...	23.61	57	52	23.54	52	52	100	E.	8	.32	211	Nimbus	4-4	Hidden	....	....	11.15 a. m.	....	.28	....	Heavy rain.
	1 0 p. m.	23.60	56	53	23.53	53	53	100	S. E.	6	.18	....	Nimbus	4-4	Hidden	....	....	....	....	.09	....	Light rain.
	2 0 p. m.	23.59	56	53	23.52	53	53	100	S.	8	.32	....	Nimbus	4-4	Hidden	....	....	....	....	.01	....	Light rain.
	3 0 p. m.	23.58	55	53	23.52	53	53	100	S.	6	.18	....	Nimbus	4-4	Hidden	....	....	....	....	.11	....	Light rain.
	4 14 p. m.	23.57	55	51	23.51	51	51	100	W.	5	.12	....	Nimbus	2-4	Cumulus	1-4	W.	....	....	.29	....	Light rain.
	5 0 p. m.	23.56	56	53	23.49	53	53	100	E.	8	.32	....	Nimbus	4-4	Hidden	....	....	....	....	.02	....	Light rain.
	6 0 p. m.	23.55	56	52	23.48	52	52	100	S. W.	4	.08	....	Nimbus	4-4	Hidden	....	....	....	....	.03	....	Light rain.
	7 0 p. m.	23.55	53	51	23.49	51	51	100	S. W.	8	.32	....	0	0	Cumulus	4-4	S. W.	....	6.15 p. m.	.01	....	Cloudy.
	8 0 p. m.	23.55	53	50	23.49	50	49	93	S. W.	8	.32	....	0	0	Cumulus	4-4	S. W.	....	....	....	....	Cloudy.
	9 0 p. m.	23.56	54	49	23.50	49	48.5	96	S. W.	6	.18	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 p. m.	23.57	54	49	23.51	49	48.5	96	W.	6	.18	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 39 p. m.	23.58	54	49	23.52	49	48	93	W.	4	.08	....	Light fog	....	Cumulus	1-4	0	....	....	....	....	Fair.
	12 0 p. m.	23.56	53	48	23.50	48	47.5	96	W.	4	.08	....	0	0	Cirrus	2-4	S.	....	....	....	....	Fair.
Knoxville, Tenn.	7 0 a. m.	29.00	74	67	28.872	66	65	94	E.	4	.08	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	7 7 a. m.	29.00	74	67	28.872	66	65	94	E.	4	.08	....	Stratus	4-4	Hidden	....	....	....	11.30 p. m.	....	....	Cloudy.
	11 32 a. m.	29.00	74	65	28.872	64	63	94	W.	20	2.00	135	Nimbus	4-4	Hidden	....	....	....	....	....	....	Heavy rain.
	2 0 p. m.	28.94	75	69	28.810	68	66	90	S.	8	.32	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	4 7 p. m.	28.91	77	71	28.774	70	67	84	N.	3	.04	....	Cum.-strat	2-4	Cirrus	1-4	0	11.45 a. m.	1.30 p. m.	.75	....	Clearing.
	9 0 p. m.	28.93	73	68	28.805	67	64	84	E.	2	.02	....	Stratus	1-4	0	0	0	....	....	....	....	Fair.
	10 32 p. m.	28.95	73	66	28.825	65	63.5	92	0	0	0	....	Cir.-strat.	1-4	Hazy	....	....	....	....	....	....	Fair.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'en'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.54	52	47	23.48	47	46.5	96	N. W.	14	.98	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	2 0 a. m.	23.55	52	47	23.49	47	47	100	W.	16	1.28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 a. m.	23.54	52	46	23.48	46	46	100	N. W.	20	2.00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 0 a. m.	23.53	51	47	23.47	47	47	100	N. W.	24	2.88	....	Light fog	....	Cirrus	....	0	....	....	....	....	Fair.
	5 0 a. m.	23.54	51	47	23.48	47	47	100	W.	20	2.00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 a. m.	23.55	51	48	23.49	48	48	100	W.	20	2.00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 14 a. m.	23.56	51	49	23.50	49	49	100	N. W.	18	1.62	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 a. m.	23.57	51	49	23.51	49	49	100	W.	19	1.80	....	Fog	....	Hipden	....	....	....	....	....	....	Foggy.
	9 0 a. m.	23.58	52	50	23.52	50	50	100	N. W.	20	2.00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 a. m.	23.60	53	52	23.54	52	52	100	N. W.	17	1.44	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	11 0 a. m.	23.63	56	53	23.56	53	53	100	N. W.	14	.98	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 m...	23.65	59	53	23.58	53	53	100	N. W.	12	.72	293	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	1 0 p. m.	23.67	56	53	23.60	53	53	100	N. W.	14	.98	...	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 p. m.	23.68	56	55	23.61	55	54	93	N. W.	14	.98	....	Light fog	....	Cumulus	3-4	N. W.	....	....	....	....	Foggy.
	3 0 p. m.	23.68	56	55	23.61	55	53	87	N. W.	13	.84	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	4 41 p. m.	23.70	60	56	23.62	56	54	87	N. W.	8	.32	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	5 0 p. m.	23.70	60	55	23.62	55	53	87	N. W.	12	.72	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	6 0 p. m.	23.68	57	56	23.61	56	54	87	N. W.	12	.72	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	7 0 p. m.	23.70	56	52	23.63	52	51	93	N. W.	7	.24	....	Hazy	....	Cumulus	2-4	0	....	....	....	....	Fair.
	8 0 p. m.	23.71	57	51	23.64	51	50	93	N. W.	8	.32	....	Hazy	....	Cir., cum	2-4	0	....	....	....	....	Fair.
	9 0 p. m.	23.72	57	50	23.65	50	49	93	N. W.	8	.32	....	Hazy	....	Cir., cum	1-4	0	....	....	....	....	Fair.
	10 0 p. m.	23.73	57	51	23.66	51	49.5	89	N. W.	6	.18	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	10 39 p. m.	23.73	57	50	23.66	50	49	93	N. W.	6	.18	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	12 0 p. m.	23.72	56	50	23.65	50	49.5	96	N. W.	6	.18	....	Light fog	....	0	0	0	....	....	....	....	Fair.
Knoxville, Tenn..	7 0 a. m.	29.04	71	66	28.920	65	64	95	0	0	0	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 7 a. m.	29.04	71	66	28.920	65	64	95	0	0	0	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	11 32 a. m.	29.07	76	77	28.937	76	69	69	S. E.	3	.04	56	Hazy	....	Cu. & cir.	2-4	N.	....	....	....	....	Fair.
	2 0 p. m.	29.06	78	82	28.922	81	72	62	S. E.	2	.02	....	Hazy	....	Cumulus	2-4	N.	....	....	....	....	Fair.
	4 7 p. m.	29.05	80	85	28.907	84	74	61	W.	4	.08	....	0	0	Cu. & cir.	3-4	N. W.	....	....	....	....	Fair.
	9 0 p. m.	29.09	77	75	28.954	74	71	83	S. W.	2	.02	....	0	0	Cirrus	2-4	0	....	....	....	....	Fair.
	10 32 p. m.	29.09	76	72	28.957	71	70	92	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear

Meteorological record for June 16, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from -)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 72	56	50	23. 65	50	49. 5	96	N. W.	5	. 12	....	Light fog..	....	Cirrus.....	1-4	0	....	....	....	....	Fair.
	2 0 a. m.	23. 72	56	50	23. 65	50	49. 5	96	W.	6	. 18	....	Light fog..	....	0	0	0	....	....	....	....	Fair.
	3 0 a. m.	23. 72	55	50	23. 66	50	50	100	W.	6	. 18	....	Fog........	....	Cumulus..	1-4	0	....	....	....	....	Foggy.
	4 0 a. m.	23. 72	55	50	23. 66	50	50	100	W.	12	. 72	....	Fog........	....	Cumulus..	2-4	W.	....	....	....	....	Foggy.
	5 0 a. m.	23. 74	55	50	23. 68	50	49	93	N. W.	8	. 32	....	Light fog..	....	Cumulus..	1-4	N. W.	....	....	....	....	Fair.
	6 0 a. m.	23. 76	52	53	23. 70	53	44	42	N. E.	11	. 60	....	Hazy.......	....	Cumulus..	2-4	N. W.	....	....	....	....	Fair.
	7 14 a. m.	23. 78	52	54	23. 72	54	46	49	N. E.	8	. 32	....	Hazy.......	....	Cumulus..	1-4	0	....	....	....	....	Fair.
	8 0 a. m.	23. 79	53	58	23. 73	58	50	53	N.	6	. 18	....	Hazy.......	....	Cir. & cum.	1-4	0	....	....	....	....	Fair.
	9 0 a. m.	23. 81	59	59	23. 74	59	51	54	N. E.	4	. 08	....	Hazy.......	....	Cir., cum..	1-4	E.	....	....	....	....	Fair.
	10 0 a. m.	23. 82	62	62	23. 74	62	55	61	N. E.	3	. 04	....	Hazy.......	....	Cumulus..	2-4	N. E.	....	....	....	....	Fair.
	11 0 a. m.	23. 84	62	61	23. 76	61	54	61	N. W.	1	. 01	....	Hazy.......	....	Cumulus..	3-4	N. W.	....	....	....	....	Cloudy.
	12 0 m ..	23. 84	62	64	23. 76	64	56	57	S. W.	2	. 02	184	Hazy.......	....	Cumulus..	3-4	N. W.	....	....	....	....	Cloudy.
	1 0 p. m.	23. 82	63	63	23. 74	63	58	72	S. W.	1	. 01	....	Hazy.......	....	Cir., cum..	4-4	0	....	....	....	....	Cloudy.
	2 0 p. m.	23. 80	64	62	23. 72	62	56	66	N. W.	4	. 08	....	Hazy.......	....	Cumulus..	4-4	N. W.	....	....	....	....	Cloudy.
	3 0 p. m.	23. 80	64	65	23. 72	65	58	63	N. W.	1	. 01	....	Hazy.......	....	Cumulus..	3-4	N. W.	....	....	....	....	Cloudy.
	4 14 p. m.	23. 78	64	63	23. 70	63	57	67	S. W.	2	. 02	....	Hazy.......	....	Cir., cum..	4-4	S. W.	....	....	....	....	Cloudy.
	5 0 p. m.	23. 78	63	59	23. 70	59	55	76	W.	4	. 08	....	Hazy.......	....	Cumulus..	4-4	0	....	....	....	....	Cloudy.
	6 0 p. m.	23. 78	61	58	23. 71	58	54	76	W.	4	. 08	....	Hazy.......	....	Cumulus..	2-4	0	....	....	....	....	Fair.
	7 0 p. m.	23. 78	58	56	23. 71	56	54	87	W.	10	. 50	....	Hazy.......	....	Cumulus..	4-4	0	....	....	....	....	Cloudy.
	8 0 p. m.	23. 79	60	54	23. 71	54	52	87	W.	8	. 32	....	Hazy.......	....	Cumulus..	4-4	0	....	....	....	....	Cloudy.
	9 0 p. m.	23. 79	61	53	23. 71	53	52	93	W.	4	. 08	....	0	0	Cumulus..	4-4	0	....	....	....	....	Cloudy.
	10 0 p. m.	23. 79	60	54	23. 71	54	52	87	W.	8	. 32	....	0	0	Cumulus..	4-4	0	....	....	....	....	Cloudy.
	10 30 p. m.	23. 79	60	53	23. 71	53	52	93	N. W.	8	. 32	....	0	0	Cumulus..	4-4	0	....	....	....	....	Cloudy.
	12 0 p. m.	23. 78	59	52	23. 71	52	50	87	N. W.	8	. 32	....	0	0	Cumulus..	4-4	0	....	....	....	....	Cloudy.
Knoxville, Tenn.	7 0 a. m.	29. 17	71	68	29. 050	67	66	94	0	0	0	....	Fog........	....	Cir.-cum ..	4-4	0	....	....	....	....	Cloudy.
	7 7 a. m.	29. 17	71	68	29. 050	67	66	94	0	0	0	....	Fog........	....	Cir.-cum ..	4-4	0	....	....	....	....	Cloudy.
	11 32 a. m.	29. 19	83	80	29. 039	70	71	65	N. E.	2	. 02	51	Stratus....	4-4	Hidden ..	....	......	....	....	....	....	Cloudy.
	2 0 p. m.	29. 17	83	82	29. 019	81	70	55	S. W.	3	. 04	....	Stratus....	3-4	0	0	0	....	....	....	....	Threatening.
	4 7 p. m.	29. 16	78	73	29. 022	72	69	85	S.	9	. 40	....	Nimbus...	4-4	Hidden ..	....	......	3.45 p. m.	....	. 01	....	Light rain.
	9 0 p. m.	29. 15	75	70	29. 020	69	67	90	W.	2	. 02	....	Stratus....	4-4	Hidden ..	....	......	....	....	....	....	Cloudy.
	10 32 p. m.	29. 17	70	70	29. 052	69	67	90	W.	1	. 01	....	Stratus....	4-4	Hidden ..	....	......	....	5.00 p. m.	. 01	....	Cloudy.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.78	59	52	23.71	52	50	87	N. W.	6	.18	....	0	0	Cumulus	4-4	0	....	....	....	....	Cloudy.
	2 0 a. m.	23.77	58	52	23.70	52	50	87	N. W.	8	.32	....	0	0	Cumulus	4-4	0	....	....	....	....	Cloudy.
	3 0 a. m.	23.76	58	53	23.69	53	50	80	N. W.	4	.08	....	0	0	Cir., cum	3-4	W.	....	....	....	....	Cloudy.
	4 0 a. m.	23.75	56	53	23.68	53	48	67	N. E.	9	.40	....	0	0	Cir., cum	4-4	W.	....	....	....	....	Cloudy.
	5 0 a. m.	23.75	56	54	23.68	54	48	61	N. E.	9	.40	....	0	0	Cir., cum	3-4	W.	....	....	....	....	Cloudy.
	6 0 a. m.	23.76	56	56	23.69	56	49	57	N. E.	7	.24	....	Hazy	....	Cir., cum	1-4	W.	....	....	....	....	Fair.
	7 14 a. m.	23.78	57	64	23.71	64	58	59	N. E.	3	.04	....	Hazy	....	Cirrus ..	1-4	0	....	....	....	....	Fair.
	8 0 a. m.	23.80	57	63	23.73	63	54	52	N. E.	1	.01	....	Hazy	....	Cirrus ..	1-4	0	....	....	....	....	Fair.
	9 0 a. m.	23.80	61	64	23.72	64	57	63	S.	1	.01	....	Hazy	....	Cirrus ..	2-4	0	....	....	....	....	Fair.
	10 0 a. m.	23.80	58	64	23.73	64	57	62	S.	1	.01	....	Hazy	....	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	11 0 a. m.	23.81	62	62	23.73	62	57	72	S. W.	2	.02	....	Hazy	....	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	12 0 m...	23.80	63	60	23.72	60	56	76	N. W.	1	.01	114	Hazy	....	Cumulus	4-4	S.	....	....	....	....	Cloudy.
	1 0 p. m.	23.79	64	65	23.71	65	60	73	N.	1	.01	....	Hazy	....	Cumulus	1-4	W.	....	....	....	....	Cloudy.
	2 0 p. m.	23.78	67	62	23.69	62	57	72	N. W.	4	.08	....	Hazy	....	Cumulus	1-4	S. W.	....	....	....	....	Cloudy.
	3 0 p. m.	23.76	65	64	23.67	64	59	73	S. W.	4	.08	....	Hazy	....	Cumulus	3-4	S. W.	....	....	....	....	Cloudy.
	4 14 p. m.	23.76	66	62	23.67	62	56	66	W.	8	.32	....	Hazy	....	Cumulus	2-4	W.	....	....	....	....	Cloudy.
	5 0 p. m.	23.76	66	63	23.67	63	58	72	W.	6	.18	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Cloudy.
	6 0 p. m.	23.77	63	59	23.69	59	56	82	W.	8	.32	....	Hazy	....	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	7 0 p. m.	23.76	61	55	23.68	55	54	93	N. W.	8	.32	....	Fog	....	Hidden .	....	......	....	....	....	....	Foggy.
	8 0 p. m.	23.76	61	55	23.68	55	54.5	97	N. W.	8	.32	....	Fog	....	Hidden .	....	......	....	....	....	....	Foggy.
	9 0 p. m.	23.77	62	54	23.69	54	54	100	S. W.	12	.72	....	Fog	....	Hidden .	....	......	....	....	....	....	Foggy.
	10 0 p. m.	23.76	62	55	23.68	55	55	100	S. W.	10	.50	....	Fog	....	Hidden .	....	......	....	....	....	....	Foggy.
	10 39 p. m.	23.75	61	55	23.67	55	55	100	S. W.	16	1.28	....	Fog	....	Hidden .	....	......	....	....	....	....	Foggy.
	12 0 p. m.	33.74	60	54	23.66	54	54	100	S. W.	16	1.28	....	Fog	....	Hidden .	....	......	....	....	....	....	Foggy.
Knoxville, Tenn.	7 0 a. m.	29.16	74	69	29.032	68	66	90	S. W.	2	.02	....	Nimbus ...	4-4	Hidden .	....	......	....	....	....	....	Cloudy.
	7 7 a. m.	29.16	74	69	29.032	68	66	90	S. W.	2	.02	....	Nimbus ...	4-4	Hidden .	....	......	....	....	....	....	Cloudy.
	11 32 a. m.	29.20	77	72	29.064	71	67	80	W.	2	.02	74	Stratus ...	4-4	Hidden .	....	......	....	....	....	....	Cloudy.
	2 0 p. m.	29.13	80	79	28.987	78	72	75	S. E.	3	.04	....	Hazy	....	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	4 7 p. m.	29.13	83	83	28.979	82	74	67	W.	3	.04	....	0	0	Cir.-cum	3-4	S. W.	8.00 a. m.	11.00 a. m.	0.11	....	Cloudy.
	9 0 p. m.	29.12	77	75	28.984	74	73	95	0	0	0	....	Stratus ...	4-4	Hidden .	....	......	....	....	....	....	Threatening.
	10 32 p. m.	29.10	76	72	28.967	71	68	85	S.	2	.02	....	Stratus ...	4-4	Hidden .	....	......	....	....	....	....	Threatening.

Meteorological record for June 16, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from -)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 72	56	50	23. 65	50	49. 5	96	N. W.	5	. 12	....	Light fog	....	Cirrus	1-4	0	....	....	....	....	Fair.
	2 0 a. m.	23. 72	56	50	23. 65	50	49. 5	96	W.	6	. 18	....	Light fog	....	0	0	0	....	....	....	....	Fair.
	3 0 a. m.	23. 72	55	50	23. 66	50	50	100	W.	6	. 18	....	Fog	....	Cumulus	1-4	0	....	....	....	....	Foggy.
	4 0 a. m.	23. 72	55	50	23. 66	50	50	100	W.	12	. 72	....	Fog	....	Cumulus	2-4	W.	....	....	....	....	Foggy.
	5 0 a. m.	23. 74	55	50	23. 68	50	49	93	N. W.	8	. 32	....	Light fog	....	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	6 0 a. m.	23. 76	52	53	23. 70	53	44	42	N. E.	11	. 60	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	7 14 a. m.	23. 78	52	54	23. 72	54	46	49	N. E.	8	. 32	....	Hazy	....	Cumulus	1-4	0	....	....	....	....	Fair.
	8 0 a. m.	23. 79	53	58	23. 73	58	50	53	N.	6	. 18	....	Hazy	....	Cir. & cum.	1-4	0	....	....	....	....	Fair.
	9 0 a. m.	23. 81	59	59	23. 74	59	51	54	N. E.	4	. 08	....	Hazy	....	Cir., cum.	1-4	E.	....	....	....	....	Fair.
	10 0 a. m.	23. 82	62	62	23. 74	62	55	61	N. E.	3	. 04	....	Hazy	....	Cumulus	2-4	N. E.	....	....	....	....	Fair.
	11 0 a. m.	23. 84	62	61	23. 76	61	54	61	N. W.	1	. 01	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	12 0 m ..	23. 84	62	64	23. 76	64	56	57	S. W.	2	. 02	184	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	1 0 p. m.	23. 82	63	63	23. 74	63	58	72	S. W.	1	. 01	....	Hazy	....	Cir., cum.	4-4	0	....	....	....	....	Cloudy.
	2 0 p. m.	23. 80	64	62	23. 72	62	56	66	N. W.	4	. 08	....	Hazy	....	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	3 0 p. m.	23. 80	64	65	23. 72	65	58	63	N. W.	1	. 01	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	4 14 p. m.	23. 78	64	63	23. 70	63	57	67	S. W.	2	. 02	....	Hazy	....	Cir., cum.	4-4	S. W.	....	....	....	....	Cloudy.
	5 0 p. m.	23. 78	63	59	23. 70	59	55	76	W.	4	. 08	....	Hazy	....	Cumulus	4-4	0	....	....	....	....	Cloudy.
	6 0 p. m.	23. 78	61	58	23. 71	58	54	76	W.	4	. 08	....	Hazy	....	Cumulus	2-4	0	....	....	....	....	Fair.
	7 0 p. m.	23. 78	58	56	23. 71	56	54	87	W.	10	. 50	....	Hazy	....	Cumulus	4-4	0	....	....	....	....	Cloudy.
	8 0 p. m.	23. 79	60	54	23. 71	54	52	87	W.	8	. 32	....	Hazy	....	Cumulus	4-4	0	....	....	....	....	Cloudy.
	9 0 p. m.	23. 79	61	53	23. 71	53	52	93	W.	4	. 08	....	0	0	Cumulus	4-4	0	....	....	....	....	Cloudy.
	10 0 p. m.	23. 79	60	54	23. 71	54	52	87	W.	8	. 32	....	0	0	Cumulus	4-4	0	....	....	....	....	Cloudy.
	10 39 p. m.	23. 79	60	53	23. 71	53	52	93	N. W.	8	. 32	....	0	0	Cumulus	4-4	0	....	....	....	....	Cloudy.
	12 0 p. m.	23. 78	59	52	23. 71	52	50	87	N. W.	8	. 32	....	0	0	Cumulus	4-4	0	....	....	....	....	Cloudy.
Knoxville, Tenn.	7 0 a. m.	29. 17	71	68	29. 050	67	66	94	0	0	0	....	Fog	....	Cir.-cum	4-4	0	....	....	....	....	Cloudy.
	7 7 a. m.	29. 17	71	68	29. 050	67	66	94	0	0	0	....	Fog	....	Cir.-cum	4-4	0	....	....	....	....	Cloudy.
	11 32 a. m.	29. 19	83	80	29. 039	79	71	65	N. E.	2	. 02	51	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	2 0 p. m.	20. 17	83	82	29. 019	81	70	55	S. W.	3	. 04	....	Stratus	3-4	0	0	0	....	....	....	....	Threatening.
	4 7 p. m.	29. 16	78	73	29. 022	72	69	85	S.	9	. 40	....	Nimbus	4-4	Hidden	....	....	3.45 p. m.	....	. 01	....	Light rain.
	9 0 p. m.	29. 15	75	70	29. 020	69	67	90	W.	2	. 02	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	10 32 p. m.	20. 17	70	70	29. 052	69	67	90	W.	1	. 01	....	Stratus	4-4	Hidden	....	....	....	5.00 p. m.	. 01	....	Cloudy.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.78	59	52	23.71	52	50	87	N. W.	6	.18	....	0	0	Cumulus	4-4	0	....	....	....	....	Cloudy.
	2 0 a. m.	23.77	58	52	23.70	52	50	87	N. W.	8	.32	....	0	0	Cumulus	4-4	0	....	....	....	....	Cloudy.
	3 0 a. m.	23.76	58	53	23.69	53	50	80	N. W.	4	.08	....	0	0	Cir., cum	3-4	W.	....	....	....	....	Cloudy.
	4 0 a. m.	23.75	56	53	23.68	53	48	67	N. E.	9	.40	....	0	0	Cir., cum	4-4	W.	....	....	....	....	Cloudy.
	5 0 a. m.	23.75	56	54	23.68	54	48	61	N. E.	9	.40	....	0	0	Cir., cum	3-4	W.	....	....	....	....	Cloudy.
	6 0 a. m.	23.76	56	56	23.69	56	49	57	N. E.	7	.24	....	Hazy	....	Cir., cum	1-4	W.	....	....	....	....	Fair.
	7 14 a. m.	23.78	57	64	23.71	64	58	59	N. E.	3	.04	....	Hazy	....	Cirrus	1-4	0	....	....	....	....	Fair.
	8 0 a. m.	23.80	57	63	23.73	63	54	52	N. E.	1	.01	....	Hazy	....	Cirrus	1-4	0	....	....	....	....	Fair.
	9 0 a. m.	23.80	61	64	23.72	64	57	62	S.	1	.01	....	Hazy	....	Cirrus	2-4	0	....	....	....	....	Fair.
	10 0 a. m.	23.80	58	64	23.73	64	57	62	S.	1	.01	....	Hazy	....	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	11 0 a. m.	23.81	62	62	23.73	62	57	72	S. W.	2	.02	....	Hazy	....	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	12 0 m...	23.80	63	60	23.72	60	56	76	N. W.	1	.01	114	Hazy	....	Cumulus	4-4	S.	....	....	....	....	Cloudy.
	1 0 p. m.	23.79	64	65	23.71	65	60	73	N.	1	.01	....	Hazy	....	Cumulus	1-4	W.	....	....	....	....	Cloudy.
	2 0 p. m.	23.78	67	62	23.69	62	57	72	N. W.	4	.08	....	Hazy	....	Cumulus	1-4	S. W.	....	....	....	....	Cloudy.
	3 0 p. m.	23.76	65	64	23.67	64	59	73	S. W.	4	.08	....	Hazy	....	Cumulus	3-4	S. W.	....	....	....	....	Cloudy.
	4 14 p. m.	23.76	66	62	23.67	62	56	66	W.	8	.32	....	Hazy	....	Cumulus	2-4	W.	....	....	....	....	Cloudy.
	5 0 p. m.	23.76	66	63	23.67	63	58	72	W.	6	.18	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Cloudy.
	6 0 p. m.	23.77	63	59	23.69	59	56	82	W.	8	.32	....	Hazy	....	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	7 0 p. m.	23.76	61	55	23.68	55	54	93	N. W.	8	.32	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	8 0 p. m.	23.76	61	55	23.68	55	54.5	97	N. W.	8	.32	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	9 0 p. m.	23.77	62	54	23.69	54	54	100	S. W.	12	.72	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	10 0 p. m.	23.76	62	55	23.68	55	55	100	S. W.	10	.50	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	10 39 p. m.	23.75	61	55	23.67	55	55	100	S. W.	16	1.28	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	12 0 p. m.	33.74	60	54	23.66	54	54	100	S. W.	16	1.28	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
Knoxville, Tenn.	7 0 a. m.	29.16	74	69	29.032	68	66	90	S. W.	2	.02	....	Nimbus	4-4	Hidden	....	......	....	....	....	....	Cloudy.
	7 7 a. m.	29.16	74	69	29.032	68	66	90	S. W.	2	.02	....	Nimbus	4-4	Hidden	....	......	....	....	....	....	Cloudy.
	11 32 a. m.	29.20	77	72	29.064	71	67	80	W.	2	.02	74	Stratus	4-4	Hidden	....	......	....	....	....	....	Cloudy.
	2 0 p. m.	29.13	80	79	28.987	78	72	75	S. E.	3	.04	....	Hazy	....	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	4 7 p. m.	29.13	83	83	28.979	82	74	67	W.	3	.04	....	0	0	Cir.-cum	3-4	S. W.	8.00 a. m.	11.00 a. m.	0.11	....	Cloudy.
	9 0 p. m.	29.12	77	75	28.984	74	73	93	0	0	0	....	Stratus	4-4	Hidden	....	......	....	....	....	....	Threatening.
	10 32 p. m.	29.10	76	72	28.967	71	68	85	S.	2	.02	....	Stratus	4-4	Hidden	....	......	....	....	....	....	Threatening.

Meteorological record for June 18, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.74	60	54	23.66	54	53.5	97	W.	12	.72	....	Fog	....	0	0	0	....	....	....	....	Foggy.
	2 0 a. m.	23.73	59	53	23.66	53	52.5	97	S. W.	16	1.28	....	Light fog	....	Cir., cum	2-4	W.	....	....	....	....	Fair.
	3 0 a. m.	23.71	58	53	22.64	53	52.5	97	S. W.	18	1.62	....	Light fog	....	Cirrus	2-4	W.	....	....	....	....	Fair.
	4 0 a. m.	23.71	57	53	23.64	53	52.5	97	W.	16	1.28	....	Light fog	....	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	5 0 a. m.	23.72	57	53	23.65	53	53	100	S. W.	16	1.28	....	Fog	....	Cumulus	2-4	W.	....	....	....	....	Foggy.
	6 0 a. m.	23.73	58	54	23.70	54	54	100	S. W.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 14 a. m.	23.74	58	54	23.67	54	54	100	W.	16	1.28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 a. m.	23.74	58	55	23.67	55	55	100	W.	16	1.28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 a. m.	23.75	59	59	23.68	59	58	94	W.	12	.72	....	Light fog	....	Cumulus	1-4	W.	....	....	....	....	Fair.
	10 0 a. m.	23.77	60	58	23.69	58	56	88	W.	8	.32	....	Hazy	....	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	11 0 a. m.	23.77	60	61	23.69	61	57	77	W.	12	.72	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	12 0 m	23.77	60	65	23.69	65	59	68	W.	6	.18	242	Hazy	....	Cumulus	3-4	W.	2.15 p. m.	....	.06	....	Cloudy.
	1 0 p. m.	23.77	63	63	23.69	63	57	67	W.	8	.32	....	Hazy	....	Cumulus	3-4	W.	....	....	.07	....	Cloudy.
	2 0 p. m.	23.76	63	63	23.68	63	57	67	W.	6	.18	....	Hazy	....	Cumulus	4-4	N. W.	....	4.21 p. m.	.01	....	Threatening; heavy thunder-storm S. W.
	3 0 p. m.	23.72	58	56	23.65	56	55	93	S. W.	16	1.28	....	Nimbus	3-4	Cumulus	3-4	W.	....	....	....	....	Light rain.
	4 14 p. m.	23.72	61	57	23.64	57	56	94	W.	12	.72	...	Nimbus	1-4	Cumulus	3-4	W.	....	....	....	....	Light rain.
	5 0 p. m.	23.72	59	58	23.65	58	57	94	W.	12	.72	....	Fog	....	Cumulus	1-4	W.	....	....	....	....	Foggy.
	6 0 p. m.	23.73	60	58	23.65	58	56	88	S. W.	12	.72	....	Hazy	....	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	7 0 p. m.	23.73	61	57	23.65	57	56	94	W.	20	2.00	....	Light fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 p. m.	23.73	61	56	23.65	56	56	100	W.	14	.98	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 p. m.	23.74	61	56	22.66	56	56	100	S. W.	16	1.28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 p. m.	23.75	60	56	23.67	56	56	100	S. W.	18	1.62	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 39 p. m.	23.74	60	56	23.66	56	56	100	W.	16	1.28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 p. m.	23.73	60	55	23.65	55	55	100	W.	16	1.28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
Knoxville, Tenn.	7 0 a. m.	29.13	74	70	29.002	69	67	90	W.	12	.72	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	7 7 a. m.	29.13	74	70	29.002	69	67	90	W.	12	.72	...	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	11 32 a. m.	29.14	78	76	29.002	75	70	76	S.	16	1.28	124	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	2 0 p. m.	29.09	79	81	28.949	80	73	70	S.	11	.60	....	0	0	Cumulus	1-4	W.	....	....	....	....	Fair.
	4 7 p. m.	29.06	81	83	28.914	82	72	59	S.	9	.40	....	0	0	Cu. & cir	2-4	S. W.	....	....	....	....	Fair.
	9 0 p. m.	29.08	80	77	28.937	76	70	72	S. W.	8	.32	....	Stratus	1-4	0	0	0	....	....	....	....	Fair.
	10 32 p. m.	29.07	78	75	28.932	74	69	76	S. W.	6	.18	....	0	0	0	0	0	....	....	....	....	Clear.

Meteorological record for June 19, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 72	60	54	23. 64	54	54	100	N. W.	16	1. 28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 a. m.	23. 72	59	53	23. 65	53	53	100	N. W.	14	. 98	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 a. m.	23. 73	58	53	23. 66	53	53	100	N. W.	16	1. 28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 0 a. m.	23. 72	58	53	23. 65	53	53	100	N. W.	16	1. 28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 a. m.	23. 72	58	52	23. 65	52	52	100	N. W.	20	2. 00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 a. m.	23. 73	57	52	23. 66	52	52	100	W.	20	2. 00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 14 a. m.	23. 75	57	52	23. 68	52	52	100	W.	18	1. 62	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 a. m.	23. 77	57	53	23. 70	53	53	100	W.	20	2. 00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 a. m.	23. 78	56	53	23. 71	53	53	100	W.	19	1. 80	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 a. m.	23. 80	59	55	23. 73	55	55	100	W.	19	1. 80	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	11 0 a. m.	23. 79	59	60	23. 72	60	57	82	N. W.	16	1. 28	....	Hazy	....	Cumulus	2-4	W.	....	....	....	....	Fair.
	12 0 m...	23. 79	62	63	23. 71	63	58	72	W.	12	. 72	365	Hazy	....	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	1 0 p. m.	23. 81	61	64	23. 73	64	60	78	W.	8	. 32	....	Hazy	....	Cir., cum	3-4	W.	....	....	....	....	Cloudy.
	2 0 p. m.	23. 81	64	65	23. 73	65	59	68	W.	8	. 32	....	Hazy	....	Cumulus	4-4	S. W.	....	....	....	....	Cloudy, heavy thunder-storm in S. W.
	3 0 p. m.	23. 78	61	60	23. 70	60	59	94	W.	10	. 50	....	Fog	....	0	0	0	2.15 p. m.	2.40 p. m.	. 06	....	Foggy.
	4 14 p. m.	23. 78	63	58	23. 70	58	58	100	W.	12	. 72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 p. m.	23. 77	61	59	23. 69	59	58	94	W.	14	. 98	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 p. m.	23. 76	63	57	23. 68	57	56	94	W.	12	. 72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 0 p. m.	23. 76	62	56	23. 68	56	56	100	N. W.	12	. 72	....	Nimbus	4-4	Hidden	....	....	6.40 p. m.	7.05 p. m.	. 03	....	Light rain.
	8 0 p. m.	23. 75	63	55	23. 67	55	55	100	W.	24	2. 88	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 p. m.	23. 73	61	55	23. 65	55	55	100	N. W.	38	7. 22	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 p. m.	23. 74	60	55	23. 66	55	55	100	N. W.	28	3. 92	....	Nimbus	4-4	Hidden	....	....	9.46 p. m.	....	. 03	....	Light rain.
	10 39 p. m.	23. 73	60	55	23. 65	55	55	100	W.	30	4. 50	....	Fog	....	Hidden	....	....	....	10.30 p. m.	. 02	....	Foggy.
	12 0 p. m.	23. 71	59	54	23. 64	54	54	100	W.	28	3. 92	....	Fog	....	Hidden	....	....	11.16 p. m.	11.34 p. m.	. 01	....	Foggy.
Knoxville, Tenn.	7 0 a. m.	29. 18	76	72	29. 047	71	68	85	S. W.	4	. 08	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	7 7 a. m.	29. 18	76	72	29. 047	71	68	85	S. W.	4	. 08	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	11 32 a. m.	29. 19	80	81	29. 047	80	71	61	S. W.	12	. 72	190	0	0	Cumulus	3-4	S. W.	....	....	....	....	Cloudy.
	2 0 p. m.	29. 15	82	84	29. 002	83	76	69	S. W.	12	. 72	....	Stratus	2-4	Cumulus	1-4	0	....	....	....	....	Cloudy.
	4 7 p. m.	29. 14	83	84	29. 986	83	74	64	S. W.	8	. 32	....	Stratus	1-4	Cumulus	2-4	W.	....	....	....	....	Cloudy.
	9 0 p. m.	29. 16	79	73	29. 019	72	69	85	S. W.	12	. 72	....	Stratus	1-4	0	0	0	....	....	....	....	Fair.
	10 32 p. m.	29. 17	77	72	29. 034	71	68	87	S. W.	8	. 32	....	Stratus	1-4	0	0	0	....	....	....	....	Fair.

Meteorological record for June 20, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.70	59	54	23.63	54	54	100	W.	28	3.92	....	Nimbus	4-4	Hidden	....	....	12.05 a. m.	....	.07	....	Light rain.
	2 0 a. m.	23.69	58	53	23.62	53	53	100	W.	24	2.88	....	Nimbus	4-4	Hidden	....	....	....	....	.04	....	Light rain.
	3 0 a. m.	23.69	58	53	23.62	53	53	100	W.	22	2.42	....	Nimbus	4-4	Hidden	....	....	....	....	.05	....	Light rain.
	4 0 a. m.	23.68	57	53	23.61	53	53	100	W.	32	5.12	....	Nimbus	4-4	Hidden	....	....	....	....	.07	....	Light rain.
	5 0 a. m.	23.68	57	53	23.61	53	53	100	W.	32	5.12	..	Fog	....	Hidden	....	....	....	4.18 a. m.	.01	....	Foggy.
	6 0 a. m.	23.69	57	53	23.62	53	53	100	W.	28	3.92	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 14 a. m.	23.71	57	54	23.64	54	54	100	W.	26	3.33	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 a. m.	23.74	57	54	23.67	54	54	100	W.	22	2.42	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 a. m.	23.76	58	54	23.69	54	54	100	N. W.	20	2.00	....	Nimbus	4-4	Hidden	....	....	8.10 a. m.	....	.34	....	Heavy rain.
	10 0 a. m.	23.75	57	55	23.68	55	55	100	W.	28	3.92	....	Nimbus	4-4	Hidden	....	....	....	....	.27	....	Heavy rain.
	11 0 a. m.	23.75	57	55	23.68	55	53	100	W.	26	3.38	....	Nimbus	4-4	Hidden	....	....	....	....	.25	....	Heavy rain.
	12 0 m	23.77	58	55	23.70	55	55	100	N. W.	24	2.88	535	Nimbus	4-4	Hidden	....	....	....	....	.17	....	Heavy rain.
	1 0 p. m.	23.77	58	55	23.70	55	55	100	W.	24	2.88	....	Nimbus	4-4	Hidden	....	....	....	....	.18	....	Light rain.
	2 0 p. m.	23.75	58	56	23.68	56	56	100	W.	28	3.92	....	Fog	....	Hidden	....	....	....	1.10 p. m.	.01	....	Foggy.
	3 0 p. m.	23.74	58	57	23.67	57	57	100	W.	25	3.12	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 14 p. m.	23.73	58	56	23.66	56	56	100	W.	26	3.38	....	Fog	....	Hidden	....	....	3.15 p. m.	3.50 p. m.	.04	....	Foggy.
	5 0 p. m.	23.73	59	56	23.66	56	56	100	W.	24	2.88	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 p. m.	23.74	59	56	23.67	56	56	100	N. W.	20	2.00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 0 p. m.	23.76	58	55	23.69	55	55	100	W.	24	2.88	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 p. m.	23.77	59	55	23.70	55	55	100	W.	20	2.00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 p. m.	23.77	58	56	23.70	56	56	100	N. W.	20	2.00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 p. m.	23.78	59	55	23.71	55	55	100	N. W.	18	1.62	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 39 p. m.	23.78	59	55	23.71	55	55	100	N. W.	18	1.62	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 p. m.	23.78	58	55	23.71	55	55	100	N. W.	18	1.62	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
Knoxville, Tenn.	7 0 a. m.	29.19	76	72	29.057	71	69	90	S. W.	12	.72	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	7 7 a. m.	29.19	76	72	29.057	71	69	90	S. W.	12	.72	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	11 32 a. m.	29.20	82	83	29.052	82	72	59	S. W.	12	.72	225	Stratus	1-4	Cu. & cir	2-4	0	....	....	....	....	Cloudy.
	2 0 p. m.	29.16	84	85	29.006	84	72	53	S. W.	12	.72	....	Stratus	2 4	Cumulus	2-4	N. W.	....	....	....	....	Cloudy.
	4 7 p. m.	29.15	83	83	28.999	82	74	67	W.	4	.08	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Threatening.
	9 0 p. m.	29.15	80	77	29.007	76	73	86	S. W.	4	.08	....	Stratus	3-4	0	0	0	....	....	....	....	Cloudy.
	10 32 p. m.	29.15	78	74	29.012	73	71	88	S.	6	.18	....	Stratus	1-4	Hazy	....	....	4.45 p. m.	5.00 p. m.	.01	....	Fair.

Meteorological record for June 21, 1873

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.77	58	55	23.70	55	55	100	N. W.	17	1.44	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 a. m.	23.76	58	54	23.69	54	54	100	N. W.	20	2.00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 a. m.	23.75	57	54	23.68	54	54	100	N. W.	17	1.44	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 0 a. m.	23.75	57	53	23.68	53	53	100	N. W.	16	1.28	....	Fog	....	0	0	0	....	....	....	....	Foggy.
	5 0 a. m.	23.76	57	53	23.69	53	53	100	N. W.	16	1.28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 a. m.	23.78	57	54	23.71	54	54	100	N. W.	16	1.28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 14 a. m.	23.78	57	54	23.71	54	53	93	N. W.	12	.72	....	Light fog	....	Cumulus	1-4	0	....	....	....	....	Fair.
	8 0 a. m.	23.79	57	55	23.72	55	53	87	N. W.	8	.32	....	Hazy	....	Cumulus	1-4	0	....	....	....	....	Fair.
	9 0 a. m.	23.80	58	58	23.73	58	57	94	N. E.	8	.32	....	Hazy	....	Cumulus	1-4	N. E.	....	....	....	....	Fair.
	10 0 a. m.	23.80	58	59	23.73	59	49	43	N. E.	4	.08	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	11 0 a. m.	23.81	60	64	23.73	64	53	43	N.	6	.18	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	12 0 m.	23.82	62	66	23.74	66	55	45	N.	4	.08	409	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	1 0 p. m.	23.82	65	66	23.73	66	57	54	N. W.	4	.08	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	2 0 p. m.	23.82	68	67	23.73	67	60	64	N.	5	.12	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	3 0 p. m.	23.83	68	63	23.74	63	58	72	N. W.	4	.08	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	4 14 p. m.	23.82	67	66	23.73	66	62	70	W.	6	.18	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	5 0 p. m.	23.81	66	65	23.72	65	61	78	W.	4	.08	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	6 0 p. m.	23.80	64	61	23.72	61	59	88	N. W.	4	.08	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	7 0 p. m.	23.79	62	59	23.71	59	58	94	N. W.	5	.12	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	8 0 p. m.	23.78	58	55	23.71	55	53	87	W.	7	.24	....	Hazy	....	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	9 0 p. m.	23.80	60	55	23.72	55	54	93	S. W.	8	.32	....	Hazy	....	Cumulus	1-4	S. W.	....	....	....	....	Fair.
	10 0 p. m.	23.80	60	54	23.72	54	53	93	S. W.	8	.32	....	0	0	Cumulus	1-4	0	....	....	....	....	Fair; heat-lightning on S. horizon.
	10 39 p. m.	23.80	61	55	23.72	55	51	93	S. W.	8	.32	....	Light fog	....	0	0	0	....	....	....	....	Fair.
	12 p. m.	23.80	60	53	23.72	53	51	86	S. W.	4	.08	....	Light fog	....	Cumulus	1-4	0	....	....	....	....	Fair.
Knoxville, Tenn.	7 0 a. m.	29.17	77	72	29.034	71	70	95	S. W.	2	.02	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 7 a. m.	29.17	77	72	29.034	71	70	95	S. W.	2	.02	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	11 32 a. m.	29.18	81	84	29.034	83	72	53	S. W.	4	.08	117	0	0	Cumulus	1-4	W.	....	....	....	....	Fair.
	2 0 p. m.	29.16	83	88	29.009	87	73	48	W.	4	.08	....	0	0	Cumulus	1-4	0	....	....	....	....	Fair.
	4 7 p. m.	29.15	85	91	28.994	90	76	49	W.	5	.12	....	0	0	Cumulus	1-4	0	....	....	....	....	Fair.
	9 0 p. m.	29.13	80	76	28.987	75	72	85	S. W.	7	.24	....	0	0	Cir. & cu	3-4	0	....	....	....	....	Cloudy.
	10 32 p. m.	29.14	80	74	28.997	73	70	85	S. W.	5	.12	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM. Attached.	THERM. Exposed.	Corrected barometer.	HYGROM. Dry bulb.	HYGROM. Wet bulb.	Relative humidity.	WIND. Direction.	WIND. Velocity per hour.	WIND. Pressure per sq. ft.	WIND. Daily velocity.	LOWER CLOUDS. Kind.	LOWER CLOUDS. Amount.	UPPER CLOUDS. Kind.	UPPER CLOUDS. Amount.	UPPER CLOUDS. Direction, (moving from—)	RAIN OR SNOW. Commen'd.	RAIN OR SNOW. Ended.	Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
Summit of Mount Mitchell, N. C..	1 0 a. m.	23. 70	59	54	23. 63	54	54	100	W.	28	3. 92		Nimbus...	4-4	Hidden			12.05 a. m.		.07		Light rain.
	2 0 a. m.	23. 69	58	53	23. 62	53	53	100	W.	24	2. 88		Nimbus...	4-4	Hidden					.04		Light rain.
	3 0 a. m.	23. 69	58	53	23. 62	53	53	100	W.	22	2. 42		Nimbus...	4-4	Hidden					.05		Light rain.
	4 0 a. m.	23. 68	57	53	23. 61	53	53	100	W.	32	5. 12		Nimbus...	4-4	Hidden					.07		Light rain.
	5 0 a. m.	23. 68	57	53	23. 61	53	53	100	W.	32	5. 12		Fog		Hidden				4.18 a. m.	.01		Foggy.
	6 0 a. m.	23. 69	57	53	23. 62	53	53	100	W.	28	3. 92		Fog		Hidden							Foggy.
	7 14 a. m.	23. 71	57	54	23. 64	54	54	100	W.	26	3. 33		Fog		Hidden							Foggy.
	8 0 a. m.	23. 74	57	54	23. 67	54	54	100	W.	22	2. 42		Fog		Hidden							Foggy.
	9 0 a. m.	23. 76	58	54	23. 69	54	54	100	N. W.	20	2. 00		Nimbus...	4-4	Hidden			8.10 a. m.		.34		Heavy rain.
	10 0 a. m.	23. 75	57	55	23. 68	55	55	100	W.	28	3. 92		Nimbus	4-4	Hidden					.27		Heavy rain.
	11 0 a. m.	23. 75	57	55	23. 68	55	55	100	W.	26	3. 38		Nimbus...	4-4	Hidden					.25		Heavy rain.
	12 0 m	23. 77	58	55	23. 70	55	55	100	N. W.	24	2. 88	535	Nimbus...	4-4	Hidden					.17		Heavy rain.
	1 0 p. m.	23. 77	58	55	23. 70	55	55	100	W.	24	2. 88		Nimbus...	4-4	Hidden					.18		Light rain.
	2 0 p. m.	23. 75	58	56	23. 68	56	56	100	W.	28	3. 92		Fog		Hidden				1.10 p. m.	.01		Foggy.
	3 0 p. m.	23. 74	58	57	23. 67	57	57	100	W.	25	3. 12		Fog		Hidden							Foggy.
	4 14 p. m.	23. 73	58	56	23. 66	56	56	100	W.	26	3. 38		Fog		Hidden			3.15 p. m.	3.50 p. m.	.04		Foggy.
	5 0 p. m.	23. 73	59	56	23. 66	56	56	100	W.	24	2. 88		Fog		Hidden							Foggy.
	6 0 p. m.	23. 74	59	56	23. 67	56	56	100	N. W.	20	2. 00		Fog		Hidden							Foggy.
	7 0 p. m.	23. 76	58	55	23. 69	55	55	100	W.	24	2. 88		Fog		Hidden							Foggy.
	8 0 p. m.	23. 77	59	55	23. 70	55	55	100	W.	20	2. 00		Fog		Hidden							Foggy.
	9 0 p. m.	23. 77	58	56	23. 70	56	56	100	N. W.	20	2. 00		Fog		Hidden							Foggy.
	10 0 p. m.	23. 78	59	55	23. 71	55	55	100	N. W.	18	1. 62		Fog		Hidden							Foggy.
	10 30 p. m.	23. 78	59	55	23. 71	55	55	100	N. W.	18	1. 62		Fog		Hidden							Foggy.
	12 0 p. m.	23. 78	58	55	23. 71	55	55	100	N. W.	18	1. 62		Fog		Hidden							Foggy.
Knoxville, Tenn.	7 0 a. m.	29. 19	76	72	29. 057	71	69	90	S. W.	12	. 72		Stratus...	4-4	Hidden							Cloudy.
	7 7 a. m.	29. 19	76	72	29. 057	71	69	90	S. W.	12	. 72		Stratus...	4-4	Hidden							Cloudy.
	11 32 a. m.	29. 20	82	83	29. 052	82	72	59	S. W.	12	. 72	225	Stratus...	1-4	Cu. & cir	2-4	0					Cloudy.
	2 0 p. m.	29. 16	84	85	29. 006	84	72	53	S. W.	12	. 72		Stratus...	2 4	Cumulus	2-4	N. W.					Cloudy.
	4 7 p. m.	29. 15	83	83	28. 999	82	74	67	W.	4	. 08		Stratus...	4-4	Hidden							Threatening.
	9 0 p. m.	29. 15	80	77	29. 007	76	73	86	S. W.	4	. 08		Stratus...	3-4	0	0	0					Cloudy.
	10 32 p. m.	29. 15	78	74	29. 012	73	71	88	S.	6	. 18		Stratus...	1-4	Hazy...			4.45 p. m.	5.00 p. m.	.01		Fair.

Meteorological record for June 21, 1873

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.77	58	55	23.70	55	55	100	N. W.	17	1.44	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 a. m.	23.76	58	54	23.69	54	54	100	N. W.	20	2.00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 a. m.	23.75	57	54	23.68	54	54	100	N. W.	17	1.44	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 0 a. m.	23.75	57	53	23.68	53	53	100	N. W.	16	1.28	....	Fog	....	0	0	0	....	....	....	....	Foggy.
	5 0 a. m.	23.76	57	53	23.69	53	53	100	N. W.	16	1.28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 a. m.	23.78	57	54	23.71	54	54	100	N. W.	16	1.28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 14 a. m.	23.78	57	54	23.71	54	53	93	N. W.	12	.72	....	Light fog	....	Cumulus	1-4	0	....	....	....	....	Fair.
	8 0 a. m.	23.79	57	55	23.72	55	53	87	N. W.	8	.32	....	Hazy	....	Cumulus	1-4	0	....	....	....	....	Fair.
	9 0 a. m.	23.80	58	58	23.73	58	57	94	N. E.	8	.32	....	Hazy	....	Cumulus	1-4	N. E.	....	....	....	....	Fair.
	10 0 a. m.	23.80	58	59	23.73	59	49	43	N. E.	4	.08	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	11 0 a. m.	23.81	60	64	23.73	64	53	43	N.	6	.18	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	12 0 m ..	23.82	62	66	23.74	66	55	45	N.	4	.08	409	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	1 0 p. m.	23.82	65	66	23.73	66	57	54	N. W.	4	.08	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	2 0 p. m.	23.82	68	67	23.73	67	60	64	N.	5	.12	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	3 0 p. m.	23.83	68	63	23.74	63	58	72	N. W.	4	.08	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	4 14 p. m.	23.82	67	66	23.73	66	62	70	W.	6	.18	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	5 0 p. m.	23.81	66	65	23.72	65	61	72	W.	4	.08	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	6 0 p. m.	23.80	64	61	23.72	61	59	88	N. W.	4	.08	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	7 0 p. m.	23.79	62	59	23.71	59	58	94	N. W.	5	.12	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	8 0 p. m.	23.78	58	55	23.71	55	53	87	W.	7	.24	....	Hazy	....	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	9 0 p. m.	23.80	60	55	23.72	55	54	93	S. W.	8	.32	....	Hazy	....	Cumulus	1-4	S. W.	....	....	....	....	Fair.
	10 0 p. m.	23.80	60	54	23.72	54	53	93	S. W.	8	.32	....	0	0	Cumulus	1-4	0	....	....	....	....	Fair; heat-lightning on S. horizon.
	10 30 p. m.	23.80	61	55	23.72	55	51	93	S. W.	8	.32	....	Light fog	....	0	0	0	....	....	....	....	Fair.
	12 p. m.	23.80	60	53	23.72	53	51	86	S. W.	4	.08	....	Light fog	....	Cumulus	1-4	0	....	....	....	....	Fair.
Knoxville, Tenn.	7 0 a. m.	29.17	77	72	29.034	71	70	95	S. W.	2	.02	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 7 a. m.	29.17	77	72	29.034	71	70	95	S. W.	2	.02	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	11 32 a. m.	29.18	81	84	29.034	83	72	53	S. W.	4	.08	117	0	0	Cumulus	1-4	W.	....	....	....	....	Fair.
	2 0 p. m.	29.16	83	88	29.009	87	73	48	W.	4	.08	....	0	0	Cumulus	1-4	0	....	....	....	....	Fair.
	4 7 p. m.	29.15	85	91	28.994	90	76	49	W.	5	.12	....	0	0	Cumulus	1-4	0	....	....	....	....	Fair.
	9 0 p. m.	29.13	80	76	28.987	75	72	85	S. W.	7	.24	....	0	0	Cir. & cu	3-4	0	....	....	....	....	Cloudy.
	10 32 p. m.	29.14	80	74	28.997	73	70	85	S. W.	5	.12	....	0	0	Cirrus ..	1-4	0	....	....	....	....	Fair.

Meteorological record for June 22, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.79	59	52	23.72	52	50	86	S.W.	8	.32	....	0	0	Cumulus	1-4	0	....	....	....	....	Fair.
	2 0 a. m.	23.77	57	53	23.70	53	50	80	W.	12	.72	....	0	0	Cirrus ..	1-4	0	....	....	....	....	Fair.
	3 0 a. m.	23.76	56	52	23.69	52	49	79	W.	10	.50	....	0	0	Cirrus ..	1-4	0	....	....	....	....	Fair.
	4 0 a. m.	23.76	56	53	23.69	53	49	73	N. W.	12	.72	....	0	0	Cirrus ..	1-4	0	....	....	....	....	Fair.
	5 0 a. m.	23.77	56	53	23.70	53	50	80	N. W.	10	.50	....	Hazy	....	Cirrus ..	1-4	N. W.	....	....	....	....	Fair.
	6 0 a. m.	23.78	56	58	23.71	58	56	76	N. W.	6	.18	....	Hazy	....	Cirrus ..	1-4	0	....	....	....	....	Fair.
	7 14 a. m.	23.80	57	59	23.73	59	55	76	W.	2	.02	....	Hazy	....	Cirrus ..	1-4	0	....	....	....	....	Fair.
	8 0 a. m.	23.81	58	60	23.74	60	56	76	W.	3	.04	....	Hazy	....	Cirrus ..	1-4	0	....	....	....	....	Fair.
	9 0 a. m.	23.82	60	62	23.74	62	57	72	N. W.	1	.01	....	Hazy	....	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	10 0 a. m.	23.83	61	63	23.75	63	50	78	N. W.	1	.01	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	11 0 a. m.	23.84	63	64	23.76	64	60	78	N. W.	2	.02	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	12 0 m...	23.82	63	64	23.74	64	60	78	S. W.	3	.04	144	Hazy	....	Cumulus	3-4	S. E.	....	....	....	....	Cloudy.
	1 0 p. m.	23.81	62	61	23.73	61	50	88	N. E.	6	.18	....	Light fog	....	Cumulus	3-4	S. W.	....	....	....	....	Cloudy.
	2 0 p. m.	23.79	62	62	23.71	62	59	83	N. E.	1	.01	....	Hazy	....	Cu.-strat	4-4	0	....	....	....	....	Cloudy.
	3 0 p. m.	23.79	63	58	23.71	58	57	94	E.	4	.08	....	Light fog	....	Cu.-strat	4-4	W.	2.30 p. m.	2 55 p. m.	.19	....	Cloudy.
	4 14 p. m.	23.78	60	58	23.70	58	57	94	S.W.	10	.50	....	Hazy	....	Cu.-strat	4-4	S.W.	....	....	....	....	Cloudy.
	5 0 p. m.	23.80	59	58	23.73	58	56	88	S.W.	6	.18	....	Hazy	....	Cu.-strat	4-4	S.W.	....	....	....	....	Cloudy.
	6 0 p. m.	23.79	59	56	23.72	56	55	94	S.W.	10	.50	....	Nimbus...	1-4	Cumulus	3-4	S.W.	5.41 p. m.	....	.04	....	Light rain.
	7 0 p. m.	23.80	59	57	23.73	57	56	94	S.W.	10	.50	....	Nimbus...	4-4	Hidden ..	....	....	....	....	.05	....	Light rain.
	8 0 p. m.	23.81	60	55	23.73	55	53	87	S.W.	10	.50	....	0	0	Cumulus	3-4	S.W.	....	7.14 p. m.	.01	....	Cloudy.
	9 0 p. m.	23.82	59	54	23.75	54	53	93	S.W.	12	.72	....	0	0	Cumulus	3-4	0	....	....	....	....	Cloudy.
	10 0 p. m.	23.82	59	55	23.75	55	54	93	S.W.	14	.98	....	Fog	....	Hidden ..	....	....	....	....	....	....	Foggy.
	10 30 p. m.	23.81	59	56	23.74	56	55	93	S.W.	18	1.62	....	0	0	Cumulus	2-4	S.W.	....	....	....	....	Fair.
	12 0 p. m.	23.80	59	56	23.73	56	55	93	S.W.	12	.72	....	Fog	....	0	0	0	....	....	....	....	Foggy.
Knoxville, Tenn.	7 0 a. m.	29.15	75	72	29.020	71	69	90	E.	4	.08	....	Stratus ...	3-4	0	0	0	....	....	....	....	Cloudy.
	7 7 a. m.	29.15	75	72	29.020	71	69	90	E.	4	.08	....	Stratus ...	3-4	0	0	0	....	....	....	....	Cloudy.
	11 32 a. m.	29.17	82	83	29.022	82	73	63	S.	6	.18	82	0	0	Cu. & cir	2-4	0	....	....	....	....	Fair.
	2 0 p. m.	29.13	84	88	28.976	87	72	45	S.W.	8	.32	....	0	0	Cu. & cir	4 4	S.W.	....	....	....	....	Cloudy.
	4 7 p. m.	29.12	85	88	28.964	87	76	58	W.	8	.32	....	0	0	Cu. & cir	4-4	W.	....	....	....	....	Cloudy.
	9 0 p. m.	29.14	81	77	28.994	76	72	81	E.	2	.04	....	Nimbus ..	4-4	Hidden ..	....	....	....	....	....	....	Light rain.
	10 38 p. m.	29.14	80	74	28.997	73	69	83	N. E.	6	.18	....	Stratus ...	1-4	0	0	0	9.25 p. m.	10.00 p. m.	.01	....	Clearing.

logical record for June 23, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	HYGROM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.80	59	56	23.73	56	55.5	97	S. W.	12	.72	....	Fog	....	0	0	0	....	....			Foggy.
	2 0 a. m.	23.79	59	56	23.72	56	55.5	97	W.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 a. m.	23.78	58	55	23.71	55	54	93	S. W.	12	.72	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	4 0 a. m.	23.79	58	54	23.72	54	53.5	97	W.	14	.98	....	Light fog	....	Cir., cum	3-4	W.	....	....	....	....	Cloudy.
	5 0 a. m.	23.80	59	54	23.73	54	53	93	N. W.	12	.72	....	0	0	Cir., cum	3-4	W.	....	....	....	....	Cloudy.
	6 0 a. m.	23.82	59	56	23.75	56	54	87	N. W.	6	.18	....	0	0	Cirrus	2-4	W.	....	....	....	....	Fair.
	7 14 a. m.	23.84	59	58	23.77	58	56	88	N. W.	4	.08	....	Hazy	....	Cirrus	2-4	0	....	....	....	....	Fair.
	8 0 a. m.	23.85	60	60	23.78	60	57	82	N. W.	5	.12	....	0	0	Cir., cum	2-4	0	....	....	....	....	Fair.
	9 0 a. m.	23.87	61	61	23.79	61	58	82	N. W.	4	.08	....	Hazy	....	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	10 0 a. m.	23.89	64	61	23.81	61	58	82	N. W.	4	.08	....	0	0	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	11 0 a. m.	23.89	64	60	23.81	60	58	88	N. W.	7	.24	....	Hazy	....	Cumulus	4-4	N. W.	....	....	....	....	Cloudy; dist't thunder-storm in N. W.
	12 0 m...	23.87	64	60	23.79	60	58	88	N.	2	.02	206	Hazy	....	Cu.-strat	4-4	N. W.	....	....	...	....	Threatening.
	1 0 p. m.	23.86	64	63	23.78	63	61	89	N. W.	2	.02	....	Hazy	....	Cumulus	3-4	N. W.	12.04 p. m.	12.21 p. m.	.09	....	Cloudy; thunder-storm in E.
	2 0 p. m.	23.84	65	64	23.76	64	62	89	W.	3	.04	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	3 0 p. m.	23.86	64	60	23.78	60	59	94	E.	6	.18	....	Fog	....	Hidden	....	....	....	....	....	....	Threatening.
	4 14 p. m.	23.83	62	61	23.75	61	59	88	S. W.	8	.32	....	Hazy	....	Cumulus	3-4	S. W.	....	....	....	....	Cloudy; thunder-st'ms in N.W. & N.
	5 0 p. m.	23.85	61	58	23.77	58	55	82	N. W.	4	.08	....	Hazy	....	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	6 6 p. m.	23.85	59	54	23.78	54	54	100	N. W.	8	.32	....	Nimbus	4-4	Hidden	....	....	5.35 p. m.	....	.17	....	Heavy rain; thunder-storm.
	7 0 p. m.	23.86	57	54	23.79	54	53	93	N. W.	8	.32	....	Nimbus	1-4	Cumulus	4-4	N. W.	....	....	.08	....	Light rain.
	8 0 p. m.	23.87	59	56	23.80	56	51	69	N. W.	4	.08	....	0	0	Cumulus	4-4	N. W.	....	7.14 p. m.	.01	....	Cloudy.
	9 0 p. m.	23.87	59	56	23.80	56	52	75	N. E.	8	.32	....	Nimbus	1-4	Cumulus	3-4	0	9.00 p. m.	....	....	....	L't rain; heat-lig'n'g.
	10 0 p. m.	23.88	60	58	23.80	58	52	64	N. E.	3	.04	....	Nimbus	1-4	Cumulus	3-4	0	....	....	.03	....	Light rain.
	10 39 p. m.	23.87	60	57	23.79	57	52	69	N. E.	4	.08	....	Nimbus	1-4	Cumulus	3-4	0	....	....	.01	....	Light rain.
	12 0 p. m.	23.87	60	57	23.79	57	52	69	N. E.	1	.01	....	0	0	Cumulus	1-4	0	....	11.05 p. m.	.02	....	Fair.
Knoxville, Tenn.	7 0 a. m.	29.21	77	74	29.074	73	69	81	N. E.	3	.04	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	7 7 a. m.	29.21	77	74	29.074	73	69	81	N. E.	3	.04	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	11 32 a. m.	29.23	83	84	29.079	83	74	64	S.	4	.08	110	0	0	Cumulus	3-4	E.	....	....	....	....	Cloudy.
	2 0 p. m.	29.18	86	89	29.021	88	74	48	W.	8	.32	....	0	0	Cu. & cir.	3-4	S. E.	....	....	....	....	Cloudy.
	4 7 p. m.	29.19	86	85	29.031	84	73	56	N. W.	12	.72	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Threatening.
	9 0 p. m.	29.22	76	72	29.087	71	69	90	E.	5	.12	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	10 32 p. m.	29.22	76	71	29.087	70	68	90	N. E.	6	.18	...	Stratus	2-4	Hazy	....	....	....	....	....	....	Fair.

Meteorological record for June 24, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, moving from—)	Comment'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.87	59	54	23.80	54	51	80	N. E.	4	.08	....	0	0	Cir., cum	2-4	0	....	....	....	....	Fair.
	2 0 a. m.	23.86	58	54	23.79	54	52	87	W.	12	.72	....	Hazy	....	Cirrus	1-4	0	....	....	....	....	Fair.
	3 0 a. m.	23.84	58	44	23.77	54	53	93	W.	10	.50	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	4 0 a. m.	23.85	57	54	23.78	54	53	93	W.	10	.50	....	Light fog	....	Cirrus	1-4	0	....	....	....	....	Fair.
	5 0 a. m.	23.87	57	54	23.80	54	52	87	W.	12	.72	....	Hazy	....	Cir., cum	2-4	0	....	....	....	....	Fair.
	6 0 a. m.	23.87	57	55	23.80	55	55	100	N. W.	14	.98	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 14 a. m.	23.89	57	56	23.82	56	54	87	N. W.	13	.84	....	Light fog	....	Cirrus	3-4	N. W.	....	....	....	....	Cloudy.
	8 0 a. m.	23.90	58	57	23.83	57	55	87	N. W.	12	.72	....	Hazy	....	Cir., cum	2-4	N. W.	....	....	....	....	Fair.
	9 0 a. m.	23.91	61	60	23.83	60	56	76	N. W.	12	.72	....	Hazy	....	Cumulus	2-4	N.	....	....	....	....	Fair.
	10 0 a. m.	23.93	65	62	23.84	62	58	77	N.	12	.72	....	Hazy	....	Cumulus	2-4	N. E.	....	....	....	....	Fair.
	11 0 a. m.	23.94	65	65	23.85	65	60	73	N. E.	4	.08	....	Hazy	....	Cumulus	2-4	N. E.	....	....	....	....	Fair.
	12 0 m...	23.93	65	64	23.84	64	59	73	N. E.	2	.02	171	Hazy	....	Cumulus	2-4	N. E.	....	....	....	....	Fair.
	1 0 p. m.	23.92	66	63	23.83	63	59	78	N. E.	2	.02	....	Hazy	....	Cumulus	3-4	N. E.	....	....	....	....	Cloudy.
	2 0 p. m.	23.92	65	62	23.83	62	59	83	N.	2	.02	....	Hazy	....	Cu.-strat	3-4	N. E.	....	....	....	....	Cloudy.
	3 0 p. m.	23.90	65	63	23.81	63	59	78	N.	3	.04	....	Hazy	....	Cu.-strat	4-4	N. W.	....	....	....	....	Threatening; distant thunder-storms.
	4 14 p. m.	23.89	64	61	23.81	61	59	88	N. W.	2	.02	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	5 0 p. m	23.90	67	61	23.81	61	59	88	N. W.	8	.32	....	Hazy	....	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	6 0 p. m.	23.88	66	63	23.79	63	59	78	N. W.	8	.32	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	7 0 p.m.	23.89	65	61	23.80	61	58	82	N. W.	8	.32	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	8 0 p.m.	23.89	65	58	23.80	58	56	88	N. W.	8	.32	....	Hazy	....	Cumulus	1-4	0	....	....	....	....	Fair.
	9 0 p.m.	23.90	63	57	23.82	57	57	100	N.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 p.m.	23.90	64	57	23.82	57	57	100	N. W.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 39 p. m.	23.90	63	57	23.82	57	57	100	N.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 p. m.	23.90	63	57	23.82	57	57	100	N. W.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
Knoxville, Tenn.	7 0 a. m.	29.28	72	69	29.157	68	67	94	E.	3	.04	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 7 a. m	29.28	72	69	29.157	68	67	94	E.	3	.04	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	11 32 a. m.	29.30	80	83	29.155	84	74	67	S. E.	4	.08	130	0	0	Cumulus	1-4	N.	....	....	....	....	Fair.
	2 0 p. m.	29.25	83	89	29.099	88	74	48	E.	4	.08	....	0	0	Cumulus	1-4	0	....	....	....	....	Fair.
	4 0 p. m.	29.24	86	89	29.081	88	76	55	N. W.	12	.72	....	0	0	Cu. & cir	3-4	0	....	....	....	....	Cloudy.
	9 7 p. m.	29.27	80	77	29.127	76	72	81	N. W.	4	.08	....	Stratus	1-4	0	0	0	....	....	....	....	Fair.
	10 32 p. m.	29.24	80	75	29.097	74	71	85	S. W.	4	.08	....	0	0	0	0	0	....	....	....	....	Clear.

Meteorological record for June 25, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 89	62	57	23. 81	57	57	100	N. W.	15	1. 12	....	Fog	....	0	0	0	....	....	....	....	Foggy.
	2 0 a. m.	23. 88	62	57	23. 80	57	57	100	N. W.	8	. 32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 a. m.	23. 88	62	57	23. 80	57	57	100	N. W.	14	. 98	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 0 a. m.	23. 87	61	56	23. 79	56	56	100	N. W.	16	1. 28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 a. m.	23. 87	61	55	23. 79	55	55	100	N. W.	8	. 32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 a. m.	23. 87	61	58	23. 79	58	53	70	N. E.	7	. 24	....	Hazy	....	Cirrus	1-4	0	....	....	....	....	Fair.
	7 14 a. m.	23. 88	61	60	23. 80	60	55	71	N. E.	6	. 18	....	Hazy	....	Cirrus	1-4	0	....	....	....	....	Fair.
	8 0 a. m.	23. 90	62	62	23. 82	62	56	66	N. E.	7	. 24	....	Hazy	....	Cir., cum	1-4	0	....	....	....	....	Fair.
	9 0 a. m	23. 91	63	63	23. 83	63	58	72	N.	5	. 12	....	Hazy	....	Cumulus	1-4	N.	....	....	....	....	Fair.
	10 00 a. m.	23. 93	65	64	23. 84	64	59	73	N. E.	4	. 06	....	Hazy	....	Cumulus	2-4	N.	....	....	....	....	Fair.
	11 00 a. m.	23. 93	66	63	23. 84	63	58	72	N. E.	5	. 12	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	12 0 m ..	23. 92	65	64	23. 83	64	59	73	N. W.	4	. 08	197	Hazy	....	Cumulus	3-4	N.	....	....	....	....	Cloudy.
	1 0 p. m.	23. 91	66	65	23. 82	65	59	68	N. W.	8	. 32	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair; dist. thunder-storm in S. W. at 12.30 p. m.
	2 0 p. m.	23. 91	70	70	23. 81	70	63	66	N.	8	. 32	....	Hazy	....	Cumulus	3-4	N.	....	....	....	....	Cloudy.
	3 0 p. m.	23. 90	68	62	23. 81	62	58	77	N. E.	9	. 40	....	Hazy	....	Cumulus	3-4	N. E.	....	....	....	....	Cloudy.
	4 14 p. m.	23. 89	65	59	23. 80	59	56	82	N. E.	8	. 32	....	Hazy	....	Cu.-strat	4-4	N. E.	....	....	....	....	Threatening; distant thunder-storm in N.W.
	5 0 p. m.	23. 88	63	57	23. 80	57	56	94	N. W.	4	. 08	....	Nimbus	2-4	Cumulus	2-4	N. E.	4.20 p. m.	....	. 23	....	Light rain; distant thunder-storm in S.W.
	6 0 p. m.	23. 88	62	56	23. 80	56	55	93	N. E.	10	. 50	....	Fog	....	Hidden	....	....	....	5.32 p. m.	. 08	....	Foggy.
	7 0 p. m.	23. 88	61	56	23. 80	56	56	100	E.	14	. 98	....	Nimbus	4-4	Hidden	....	....	6.40 p. m.	....	. 05	....	Light rain.
	8 0 p. m.	23. 88	61	52	23. 80	52	52	100	E.	16	1. 28	....	Nimbus	4-4	Hidden	....	....	....	....	. 11	....	Light rain.
	9 0 p. m.	23. 89	59	51	23. 82	51	51	100	E.	14	. 98	....	Nimbus	4-4	Hidden	....	....	....	....	. 09	....	Light rain.
	10 0 p. m.	23. 89	58	50	23. 82	50	50	100	E.	18	1. 62	....	Nimbus	4-4	Hidden	....	....	....	....	. 08	....	Light rain.
	10 39 p. m.	23. 89	56	49	23. 82	49	49	100	E.	16	1. 28	....	Nimbus	4-4	Hidden	....	....	....	....	. 05	....	Light rain.
	12 0 p. m.	23. 89	56	48	23. 82	48	48	100	E.	12	. 72	....	Nimbus	4 4	Hidden	....	....	....	....	. 09	....	Light rain.
Knoxville, Tenn.	7 0 a. m.	29. 27	78	74	29. 132	73	71	90	S. W.	3	. 04	....	0	0	Cirrus	2-4	0	....	....	....	....	Fair.
	7 7 a. m.	29. 27	78	74	29. 132	73	71	90	S. W.	3	. 04	....	0	0	Cirrus	2-4	0	....	....	....	....	Fair.
	11 32 a. m.	29. 28	82	86	30. 130	85	72	50	N.	8	. 32	100	0	0	Cumulus	2-4	E.	....	....	....	....	Fair.
	2 0 p. m	29. 24	86	90	29. 081	89	73	44	E.	8	. 32	....	0	0	Cirrus	1-4	N. E.	....	....	....	....	Fair.
	4 7 p. m.	29. 22	88	91	29. 056	90	76	49	N. E.	12	. 72	....	0	0	Cumulus	1-4	N. E.	....	....	....	....	Fair.
	9 0 p. m.	29. 24	83	80	29. 089	79	71	65	E.	4	. 08	....	Stratus	1-4	Hazy	....	....	....	....	....	....	Fair.
	10 32 p. m.	29. 24	80	77	29. 097	76	72	81	E.	3	. 04	....	Stratus	1-4	0	0	0	....	....	....	....	Fair.

Meteorological record for June 26, 1873.

(Hourly observation.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.88	55	48	23.81	48	48	100	E.	14	.98	....	Fog	....	Hidden	....	....	....	12.28 a. m.	.03	....	Foggy.
	2 0 a. m.	23.88	55	48	23.81	48	48	100	E.	9	.40	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 a. m.	23.87	56	49	23.80	49	49	100	E.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 0 a. m.	23.86	57	51	23.79	51	51	100	E.	8	.32	....	Light fog	....	Cirrus	3-4	0	....	....	....	....	Cloudy.
	5 0 a. m.	23.87	57	52	23.80	52	51	93	E.	6	.18	....	Light fog	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	6 0 a. m.	23.88	57	53	23.81	53	53	100	E.	10	.50	....	Light fog	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	7 14 a. m.	23.90	58	55	23.83	55	55	100	E.	10	.50	...	Light fog	...	Cumulus	3-4	0	....	....	....	....	Cloudy.
	8 0 a. m.	23.90	58	55	23.83	55	55	100	E.	2	.02	....	Light fog	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	9 0 a. m.	23.91	58	56	23.84	56	56	100	N. W.	2	.02	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 a. m.	23.92	60	56	23.84	56	56	100	N, W.	2	.02	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	11 0 a. m.	23.92	62	58	23.84	58	57	94	N. W.	1	.01	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 m.	23.91	61	58	23.82	58	57	94	N. W.	1	.01	185	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	1 0 p. m.	23.90	61	57	23.82	57	56	94	N.	2	.02	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 p. m.	23.90	62	58	23.82	58	57	94	N. E.	1	.01	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 p. m.	23.89	63	58	23.81	58	55	82	N. E.	4	.08	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 14 p. m.	23.88	59	54	23.81	54	53	93	E.	10	.50	...	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 p. m.	23.88	59	53	23.81	53	52	93	E.	15	1.12	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 p. m.	23.87	59	51	23.80	51	51	100	E.	14	.98	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 0 p. m.	23.86	56	51	23.79	51	51	100	E.	20	2.00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 p. m.	23.87	56	51	23.80	51	51	100	E.	20	2.00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 p. m.	23.89	57	51	23.82	51	51	100	E.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 p. m.	23.87	57	51	23.81	51	51	100	E.	12	.72	....	Nimbus	4-4	Hidden	....	....	9.10 p. m.	....	.06	....	Light rain.
	10 30 p. m.	23.87	57	51	23.80	51	51	100	S. E.	12	.72	....	Nimbus	4-4	Hidden	....	....	....	....	.02	....	Light rain.
	12 0 m.	23.86	56	50	23.79	50	50	100	S. E.	14	.98	....	Nimbus	4-4	Hidden	....	....	....	....	.12	....	Light rain.
Knoxville, Tenn.	7 0 a. m.	29.32	73	71	29.193	70	63	65	E.	8	.32	....	Stratus	1-4	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	7 7 a. m.	29.32	73	71	29.193	70	63	65	E.	8	.32	....	Stratus	4-4	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	11 32 a. m.	29.32	80	79	29.174	78	69	61	N. E.	6	.18	194	Stratus	2-4	Cu. & cir	2-4	0	....	....	....	....	Cloudy.
	2 0 p. m.	29.30	81	77	29.152	76	71	77	N. W.	12	.72	...	Stratus	4-4	Hidden	....	....	....	....	....	....	Threatening.
	4 7 p. m.	29.28	82	81	29.132	80	70	58	E.	12	.72	....	Stratus	1-4	Cumulus	3-4	0	....	....	....	....	Cloudy.
	9 0 p. m.	29.30	80	74	29.157	73	69	81	S. W.	12	.72	....	Stratus	2-4	Hazy	....	....	....	....	....	....	Cloudy.
	10 32 p. m.	29.29	77	72	29.152	71	68	85	W.	4	.08	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.

Meteorological record for June 27, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Thermometer.	THERM. Attached.	THERM. Exposed.	Corrected barometer.	HYGROM. Dry bulb.	HYGROM. Wet bulb.	Relative humidity.	WIND. Direction.	WIND. Velocity per hour.	WIND. Pressure per sq. ft.	WIND. Daily velocity.	LOWER CLOUDS. Kind.	LOWER CLOUDS. Amount.	UPPER CLOUDS. Kind.	UPPER CLOUDS. Amount.	UPPER CLOUDS. Direction, (moving from—)	RAIN OR SNOW. Commen'd.	RAIN OR SNOW. Ended.	Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
Summit of Mount, Mitchell, N. C.	1 0 a. m.	23. 86	56	50	23. 79	50	50	100	S. E.	8	.32		Nimbus	4-4	Hidden					.64		Light rain.
	2 0 a. m.	23. 85	56	50	23. 78	50	50	100	S. E.	8	.32		Nimbus	4-4	Hidden					.05		Light rain.
	3 0 a. m.	23. 84	56	50	23. 77	50	50	100	S.	8	.32		Nimbus	4-4	Hidden					.03		Light rain.
	4 0 a. m.	23. 83	55	50	23. 78	50	50	100	S. W.	10	.50		Fog		Cumulus	4-4	S. W.		3. 25 a. m.	.01		Cloudy.
	5 0 a. m.	23. 85	54	51	23. 79	51	51	100	S. W.	11	.60		Fog		Cumulus	4-4	0					Cloudy.
	6 0 a. m.	23. 86	57	51	23. 79	51	51	100	S. W.	9	.40		Fog		Hidden							Foggy.
	7 14 a. m.	23. 86	56	52	23. 79	52	52	100	S. W.	8	.32		Light fog		Cumulus	4-4	S. W.					Cloudy.
	8 0 a. m.	23. 86	56	54	23 79	54	54	100	W.	7	.24		Fog		Hidden							Foggy.
	9 0 a. m.	23. 87	57	57	23. 80	57	56	94	S. W.	4	.08		Fog		Hidden							Foggy.
	10 0 a. m.	23. 87	58	58	23. 80	58	57	94	S. W.	4	.08		Fog		Hidden							Foggy.
	11 0 a. m.	23. 86	59	57	23. 79	57	56	94	S. W.	4	.08		Fog		Hidden							Foggy.
	12 0 m.	23. 85	57	58	23. 78	58	58	100	S. W.	4	.08	214	Fog		Hidden							Foggy.
	1 0 p. m.	23. 84	60	58	23. 76	58	57	94	S. W.	4	.08		Fog		Hidden							Foggy.
	2 0 p. m	23. 83	60	57	23. 75	57	55	87	S. W.	2	.02		Fog		Hidden							Foggy.
	3 0 p. m.	23. 81	59	59	23. 74	59	57	88	S. W.	2	.02		Fog		Hidden							Foggy.
	4 14 p. m.	23. 80	59	57	23. 73	57	55	87	S. W.	2	.02		Fog		Hidden							Foggy.
	5 0 p. m.	23. 77	57	57	23. 70	57	55	87	S. W.	4	.08		Fog		Hidden							Foggy.
	6 0 p. m.	23. 77	57	55	23. 70	55	54	93	S. W.	8	.32		Fog		Hidden							Foggy.
	7 0 p. m.	23. 77	57	54	23. 70	54	53	93	S. W.	3	.04		Fog		Hidden							Foggy.
	8 0 p. m	23. 76	58	52	23. 69	52	52	100	S. W.	14	.98		Fog		Hidden							Foggy.
	9 0 p. m	23. 76	57	51	23. 69	51	51	100	S. W.	14	.98		Fog		Hidden							Foggy.
	10 0 p. m.	23. 77	57	52	23. 70	52	52	100	S. W.	12	.72		Fog		Hidden							Foggy.
	10 39 p. m.	23. 77	57	52	23. 70	52	52	100	W.	12	.72		Fog		Hidden							Foggy.
	12 0 p. m.	23. 75	57	52	23. 68	52	52	100	S. W.	8	.32		Fog		Hidden							Foggy.
Knoxville, Tenn.	7 0 a. m.	29. 30	75	71	29. 170	70	67	85	W.	2	.02		Stratus	4-4	Hidden							Cloudy.
	7 7 a. m.	29. 30	75	71	29. 170	70	67	85	W.	2	.02		Stratus	4-4	Hidden							Cloudy.
	11 32 a. m.	29. 28	77	75	29. 143	74	68	72	W.	8	.32		Stratus	4-4	Hidden							Cloudy.
	2 0 p. m.	29. 22	78	73	29. 082	72	69	87	E.	4	.08	119	Nimbus	4-4	Hidden			1. 15 p. m.	1. 30 p. m.			Light rain.
	4 7 p. m.	29. 18	74	72	29. 052	71	69	90	S.	12	.72		Nimbus	4-4	Hidden			2. 00 p. m.	3. 30 p. m.	.52		Cloudy.
	9 0 p. m.	29. 18	76	72	29. 017	71	69	90	S.	3	.04		Stratus	4-4	Hidden							Cloudy.
	10 32 p. m.	29. 13	75	71	29. 000	71	69	90	S.	5	.12		Stratus	4-4	Hidden							Cloudy.

Meteorological record for June 28, 1873.

(Hourly observation.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure, per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.74	56	52	23.67	52	52	100	S. W.	16	1.28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 a. m.	23.72	55	51	23.66	51	51	100	S. W.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 a. m.	23.71	55	51	23.65	51	51	100	S. W.	14	.98	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 0 a. m.	23.70	55	51	23.64	51	51	100	S. W.	14	.98	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 a. m.	23.70	55	51	23.64	51	51	100	S. W.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 a. m.	23.70	55	51	23.64	51	51	100	S. W.	14	.98	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 14 a. m.	23.71	55	51	23.65	51	51	100	S. W.	14	.98	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 a. m.	23.70	55	52	23.64	52	52	100	W.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 a. m.	23.71	56	53	23.64	53	53	100	W.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 a. m.	23.71	56	54	23.64	54	54	100	W.	6	.18	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	11 0 a. m.	23.71	57	55	23.64	55	54	93	W.	10	.50	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 m	23.70	59	57	23.63	57	56	94	W.	4	.08	213	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	1 0 p. m.	23.69	58	59	23.62	59	57	88	W.	4	.08	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 p. m.	23.68	58	60	23.61	60	58	88	W.	4	.08	....	Hazy	....	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	3 0 p. m.	23.67	59	61	23.60	61	59	88	W.	2	.02	....	Hazy	....	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	4 14 p. m.	23.66	59	58	23.59	58	57	94	W.	3	.04	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 p. m.	23.65	58	57	23.58	57	56	94	W.	4	.08	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 p. m.	23.65	58	56	23.58	56	55	94	W.	6	.18	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 0 p. m.	23.64	57	55	23.57	55	55	100	S. W.	14	.98	....	Nimbus	4-4	Hidden	....	....	6 20 p. m.	....	.09	....	Light rain.
	8 0 p. m.	23.65	57	54	23.58	54	54	100	W.	11	.60	....	Nimbus	4-4	Hidden	....	....	....	....	.05	....	Light rain.
	9 0 p. m.	23.65	59	54	23.59	54	54	100	W.	4	.08	....	Fog	....	Hidden	....	....	....	8.17 p. m.	.01	....	Foggy.
	10 0 p. m.	23.66	59	54	23.59	54	54	100	W.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 30 p. m.	23.66	59	54	23.59	54	54	100	W.	4	.08	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 p. m.	23.66	59	54	23.59	54	54	100	N. W.	4	.08	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
Knoxville, Tenn.	7 0 a. m.	29.09	73	71	28.965	70	67	87	W.	4	.08	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	7 7 a. m.	29.09	73	71	28.965	70	67	87	W.	4	.08	....	Stratus	4-4	Hidden	....	....	In night.	In night.	.04	....	Cloudy.
	11 32 a. m	29.09	76	73	28.957	72	69	85	W.	9	.40	111	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	2 0 p. m.	29.05	79	77	28.909	76	71	75	W.	7	.24	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	4 7 p. m.	29.01	81	81	28.864	80	72	73	S. W.	6	.18	....	Stratus	1-4	Cumulus	3-4	0	11 15 a. m.	11.15 a. m.	.01	....	Cloudy.
	9 0 p. m.	29.01	76	72	28.877	71	69	90	S. W.	4	.08	....	Stratus	2-4	Hazy	....	....	....	....	....	....	Cloudy.
	10 32 p. m.	29.01	76	72	28.877	71	69	90	S. W.	3	.04	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Wet bulb.	Dry bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.65	59	54	23.58	54	54	100	W.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 a. m.	23.64	58	53	23.57	53	53	100	W.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 a. m.	23.63	58	53	23.56	53	53	100	N. W.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 0 a. m.	23.63	58	53	23.56	53	53	100	N. W.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 a. m.	23.63	57	53	23.56	53	53	100	W.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 a. m.	23.63	57	54	23.56	54	54	100	W.	7	.24	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 14 a. m.	23.63	57	54	23.56	54	54	100	W.	7	.24	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 a. m.	23.64	57	55	23.57	55	55	100	W.	9	.40	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 a. m.	23.64	57	56	23.57	56	55	94	W.	7	.24	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 a. m.	23.64	59	57	23.57	57	56	94	W.	4	.08	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	11 0 a. m.	23.65	60	58	23.57	58	56	88	W.	3	.04	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 a. m.	23.64	58	57	23.57	57	56	94	S. W.	2	.02	158	Nimbus	4-4	Hidden	....	....	11.10 a. m.	....	.37	....	Heavy rain.
	1 0 p. m.	23.62	60	60	23.55	60	59	94	S. W.	4	.08	....	Nimbus	4-4	Hidden	....	....	....	....	.04	....	Light rain.
	2 0 p. m.	23.60	58	59	23.53	59	58	94	S. W.	8	.32	....	Nimbus	4-4	Hidden	....	....	....	....	.03	....	Light rain.
	3 0 p. m.	23.59	60	60	23.52	60	59	94	S.	8	.32	....	Fog	....	Hidden	....	....	....	2.25 p. m.	.01	....	Foggy.
	4 14 p. m.	23.58	58	58	23.51	58	57	94	S. W.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 p. m.	23.58	59	58	23.51	58	58	100	S. E.	8	.32	....	Nimbus	4-4	Hidden	....	....	4.30 p. m.	....	.05	....	Light rain.
	6 0 p. m.	23.57	59	58	23.50	58	58	100	S. E.	12	.72	....	Nimbus	4-4	Hidden	....	....	....	....	.07	....	Light rain.
	7 0 p. m.	23.57	60	56	23.50	56	56	100	S. E.	8	.32	....	Fog	....	Hidden	....	....	....	6.15 p. m.	.02	....	Foggy.
	8 0 p. m.	23.57	62	55	23.49	55	55	100	S. E.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 p. m.	23.57	63	54	23.49	54	54	100	S. E.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 p. m.	23.58	61	54	23.50	54	54	100	S. E.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 39 p. m.	23.58	60	54	23.51	54	54	100	S. E.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 p. m.	23.57	59	54	23.50	54	54	100	S. E.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
Knoxville, Tenn.	7 0 a. m.	28.98	75	72	28.850	71	69	90	W.	3	.04	....	Stratus	4-4	Hidden	....	....	11.40 a. m.	11.50 a. m.	....	....	Cloudy.
	7 7 a. m.	28.98	75	72	28.850	71	69	90	W.	3	.04	....	Stratus	4-4	Hidden	....	....	12.10 p. m.	1.30 p. m.	....	....	Cloudy.
	11 32 a. m.	28.94	80	79	28.797	78	72	75	S.	4	.08	100	Stratus	3-4	0	0	0	....	....	....	....	Threatening.
	2 0 p. m.	28.90	78	76	28.762	75	71	79	0	0	0	....	Stratus	3-4	0	0	0	....	....	....	....	Cloudy.
	4 7 p. m.	28.90	79	79	28.759	78	72	73	S. W.	4	.08	....	Nimbus	4-4	Hidden	....	....	....	....	.27	....	Threatening.
	9 0 p. m.	28.89	75	71	28.760	70	69	92	0	0	0	....	Stratus	4-4	Hidden	....	....	4.45 p. m.	5.15 p. m.	....	....	Cloudy.
	10 32 p. m.	28.86	75	71	28.735	70	68	90	S. W.	2	.02	....	Stratus	4-4	Hidden	....	....	11.30 p. m.	....	.15	....	Cloudy.

Meteorological record for June 30, 1873.

(Hourly observation.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 54	58	53	23. 47	53	53	100	S. E.	12	. 72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 a. m.	23. 54	58	52	23. 47	52	52	100	S. E.	12	. 72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 a. m.	23. 52	55	51	23. 46	51	51	100	S. W.	12	. 72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 0 a. m.	23. 51	56	51	23. 44	51	51	100	S. E.	8	. 32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 a. m.	23. 51	57	52	23. 44	52	52	100	S. E.	8	. 32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 a. m.	23. 51	57	52	23. 44	52	52	100	E.	10	. 50	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 14 a. m.	23. 51	57	52	23. 44	52	52	100	E.	16	1. 28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 a. m.	23. 50	57	53	23. 43	53	53	100	E.	19	1. 80	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 a. m.	23. 49	57	53	23. 42	53	53	100	E.	20	2. 00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 a. m.	23. 49	56	54	23. 42	54	54	100	E.	20	2. 00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	11 0 a. m.	23. 49	56	54	23. 42	54	54	100	E.	12	. 72	....	Nimbus	4-4	Hidden	....	....	10.12 a. m.	....	. 31	....	Heavy rain.
	12 0 m...	23. 49	56	55	23. 42	55	55	100	S. E.	12	. 72	266	Nimbus	4-4	Hidden	....	....	....	....	. 19	....	Light rain.
	1 0 p. m.	23. 48	56	56	23. 41	56	56	100	S. W.	16	1. 28	....	Fog	....	Hidden	....	....	....	12.25 p. m.	. 09	....	Foggy.
	2 0 p. m.	23. 49	58	58	23. 42	58	57	94	W.	12	. 72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 p. m.	23. 48	60	55	23. 41	55	55	100	W.	16	1. 28	....	Nimbus	4-4	Hidden	....	....	2.40 p. m.	....	. 12	....	Heavy rain
	4 14 p. m.	23. 46	56	54	23. 39	54	54	100	N. W.	18	1. 62	....	Fog	....	Hidden	....	....	....	3.45 p. m.	. 09	....	Foggy.
	5 0 p. m.	23. 47	56	54	23. 40	54	54	100	N. W.	16	1. 28	....	Nimbus	4-4	Hidden	....	....	4.45 p. m.	....	. 06	....	Heavy rain.
	6 0 p. m.	23. 49	56	53	23. 42	53	53	100	N. W.	18	1. 62	....	Nimbus	4-4	Hidden	....	....	....	....	. 06	....	Heavy rain.
	7 0 p. m.	23. 51	57	52	23. 44	52	52	100	N. W.	20	2. 00	....	Fog	....	Hidden	....	....	....	6.10 p. m.	. 03	....	Foggy.
	8 0 p. m.	23. 51	57	51	23. 44	51	51	100	N. W.	16	1. 28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 p. m.	23. 54	56	52	23. 47	52	52	100	N. W.	12	. 72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 p. m.	23. 56	56	52	23. 49	52	52	100	N. W.	12	. 72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 39 p. m.	23. 57	57	52	23. 50	52	52	100	N. W.	12	. 72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 p. m.	23. 57	55	51	23. 51	51	51	100	N. W.	19	1. 80	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
Knoxville, Tenn.	7 0 a. m.	28. 81	74	70	28. 682	69	68	95	E.	7	. 24	....	Nimbus	4-4	Hidden	....	....	....	6.15 a. m.	....	....	Light rain.
	7 7 a. m.	28. 81	74	70	28. 682	69	68	95	E.	7	. 24	....	Nimbus	4-4	Hidden	....	....	7. 00 a. m.	....	. 90	....	Light rain.
	11 32 a. m.	28. 80	74	74	28. 672	73	71	90	S.	12	. 72	115	Stratus	4-4	Hidden	....	....	....	2.40 p. m.	....	....	Cloudy.
	2 0 p. m.	28. 81	75	70	28. 680	69	67	90	W.	8	. 32	....	Nimbus	4-4	Hidden	....	....	....	....	....	....	Light rain.
	4 7 p. m.	28. 83	76	73	28. 697	72	70	90	S. E.	4	. 08	....	Stratus	4-4	Hidden	....	....	....	....	. 96	....	Cloudy.
	9 0 p. m.	28. 94	74	67	28. 812	66	63	84	S.	6	. 18	....	Stratus	1-4	0	0	0	5.10 p. m.	6.15 p. m.	....	....	Clearing.
	10 32 p. m.	28. 95	73	66	28. 825	65	63	89	W.	6	. 18	....	Nimbus	3-4	0	0	0	10.50 p. m.	11.15 p. m.	. 04	....	Light rain.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from)—	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 58	54	51	23. 52	51	51	100	N. W.	20	2. 00	....	Fog	....	Hidden ..	....	....	....	....	....	....	Foggy.
	2 0 a. m.	23. 58	55	50	23. 52	50	50	100	N. W.	18	1. 62	....	Fog	....	Hidden ..	....	....	....	....	....	....	Foggy.
	3 0 a. m.	23. 59	54	50	23. 53	50	50	100	N. W.	20	2. 00	....	Fog	....	Hidden ..	....	....	....	....	....	....	Foggy.
	4 0 a. m.	33. 60	54	50	23. 54	50	50	100	N. W.	20	2. 00	....	Fog	....	Hidden ..	....	....	....	....	....	....	Foggy.
	5 0 a. m.	23. 62	53	50	23. 56	50	50	100	N. W.	18	1. 62	....	Fog	....	Hidden ..	....	....	....	....	....	....	Foggy.
	6 6 a. m.	23. 64	53	50	23. 58	50	50	100	N. W.	20	2. 00	....	Fog	....	Hidden ..	....	....	....	....	....	....	Foggy.
	7 14 a. m.	23. 66	53	50	23. 60	50	50	100	N. W.	15	1. 12	....	Fog	....	Hidden ..	....	....	....	....	....	....	Foggy.
	8 0 a. m.	23. 68	53	51	23. 62	51	51	100	N. W.	15	1. 12	....	Fog	....	Hidden ..	....	....	....	....	....	....	Foggy.
	9 0 a. m.	23. 70	53	51	22. 64	51	51	100	N. W.	19	1. 80	....	Fog	....	Hidden ..	....	....	....	....	....	....	Foggy.
	10 0 a. m.	23. 73	54	53	23. 67	53	51	86	N. W.	12	. 72	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	11 0 a. m.	23. 75	54	55	23. 69	55	52	80	N. W.	24	2. 88	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	12 0 m...	23. 76	54	59	23. 69	59	55	76	N. W.	12	. 72	414	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	1 0 p. m.	23. 80	61	62	23. 72	62	56	66	N. W.	8	. 32	....	Hazy	....	Cir., cum	2-4	N. W.	....	....	....	....	Fair.
	2 0 p. m.	23. 82	64	62	23. 74	62	56	66	N. W.	8	. 32	....	Hazy	....	Cir., cum	2-4	N. W.	....	....	....	....	Fair.
	3 0 p. m.	23. 83	65	65	23. 74	65	59	68	N. W.	4	. 08	....	Hazy	....	Cir., cum	3-4	N. W.	....	....	....	....	Cloudy.
	4 14 p. m.	23. 83	63	62	23. 75	62	57	72	N. W.	8	. 32	....	Hazy	....	Cirrus ...	3-4	N. W.	....	....	....	....	Cloudy.
	5 0 p. m.	23. 84	63	63	23. 76	63	58	72	N. W.	2	. 02	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	6 0 p. m.	23. 84	62	60	23. 76	60	58	88	W.	8	. 32	....	Hazy	....	Cirrus ...	3-4	N. W.	....	....	....	....	Cloudy.
	7 0 p. m.	23. 83	60	58	23. 75	58	54	76	W.	12	. 72	....	Hazy	....	Cirrus ...	2-4	0	....	....	....	....	Fair.
	8 0 p. m.	23. 83	61	54	23. 75	54	53	93	W.	16	1. 28	....	Hazy	....	Cirrus ...	2-4	0	....	....	....	....	Fair.
	9 0 p. m.	23. 85	59	54	23. 78	54	52	87	S. W.	18	1. 62	....	Hazy	....	Cirrus ...	1-4	0	....	....	....	....	Fair.
	10 0 p. m.	23. 85	58	53	23. 78	53	52	93	S. W.	18	1. 62	....	0	0	0	0	0	....	....	....	....	Clear.
	10 39 p. m.	23. 86	58	54	23. 79	54	52	87	S. W.	16	1. 28	....	0	0	0	0	0	....	....	....	....	Clear.
	12 0 p. m.	23. 86	57	53	23. 79	53	52	93	S. W.	16	1. 28	....	0	0	0	0	0	....	....	....	....	Clear.
Knoxville, Tenn.	7 0 a. m.	29. 09	71	67	28. 970	66	65	94	S. W.	0	0	....	Fog	....	Hidden ..	....	....	....	....	....	....	Foggy.
	7 7 a. m.	29. 09	71	67	28. 970	66	65	94	0	0	0	....	Fog	....	Hidden ..	....	....	....	....	. 01	....	Foggy.
	11 32 a. m.	29. 15	76	79	29. 017	78	70	65	W.	8	. 32	120	0	0	Cumulus	2-4	S. W.	....	....	....	....	Fair.
	2 0 p. m.	29. 16	79	83	29. 019	82	69	49	S. W.	12	. 72	....	0	0	Cumulus	1-4	W.	....	....	....	....	Fair.
	4 7 p. m.	29. 16	79	86	29. 019	85	72	50	S. W.	8	. 32	....	0	0	Cumulus	1-4	W.	....	....	....	....	Fair.
	9 0 p. m.	29. 17	78	77	29. 032	76	73	86	0	0	0	....	0	0	Cirrus ...	1-4	0	....	....	....	....	Fair.
	10 32 p. m.	29. 19	77	74	29. 054	73	70	85	S.	1	. 01	....	0	0	0	0	0	....	....	....	....	Clear.

Meteorological record for July 2, 1873.

(Hourly observations.)

Place of observation.	Date of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.85	56	53	23.78	53	52	93	S. W.	20	2.00	....	0	0	0	0	0	....	....	....	....	Clear.
	2 0 a. m.	23.84	56	54	23.77	54	53	93	S. W.	17	1.44	....	0	0	0	0	0	....	....	....	....	Clear.
	3 0 a. m.	23.84	57	54	23.77	54	53	93	S. W.	18	1.62	....	0	0	Cirrus ..	1-4	0	....	....	....	....	Fair.
	4 0 a. m.	23.85	57	54	23.78	54	53	93	S. W.	20	2.00	....	0	0	Cirrus .	1-4	0	....	....	....	....	Fair.
	5 0 a. m.	23.87	57	54	23.80	54	53	93	S. W.	16	1.28	....	0	0	Cirrus ..	2-4	0	....	....	....	....	Fair.
	6 0 a. m.	23.88	57	54	23.81	54	53	93	S. W.	16	1.28	....	0	0	Cirrus ..	1-4	0	....	....	....	....	Fair.
	7 14 a. m.	23.90	58	55	23.83	55	53	87	W.	12	.72	....	0	0	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	8 0 a. m.	23.92	58	60	23.85	60	55	71	W.	9	.40	....	0	0	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	9 0 a. m.	23.94	60	65	23.86	65	58	88	N. W.	12	.72	....	Hazy	....	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	10 0 a. m.	23.95	63	68	23.87	68	60	60	W.	4	.08	....	Hazy	....	Cumulus	2-4	W.	....	....	....	....	Fair.
	11 0 a. m	23.96	65	68	23.87	68	61	65	W.	4	.08	....	Hazy	....	Cu.-strat	3-4	W.	....	....	....	....	Cloudy.
	12 0 m ..	23.96	67	69	23.87	69	61	61	N. W.	8	.32	281	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	1 0 p. m.	23.97	70	72	23.87	72	62	54	N. W.	4	.08	....	Hazy	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	2 0 p. m.	23.97	67	73	23.88	73	63	54	S. W.	4	.08	....	Hazy	....	Cumulus	3-4	0	....	....	....	....	Cloudy; dist'nt thunder-storm in N. E.
	3 0 p. m.	23.96	67	66	23.87	66	60	68	S. W.	2	.02	....	Hazy	....	Cumulus	3-4	S. W.	....	....	....	....	Cloudy; dist'nt thunder-storm in E.
	4 14 p. m	95	67	66	23.86	66	60	68	W.	8	.32	....	Hazy	....	Cumulus	3-4	S. W.	....	....	....	....	Cloudy; dist'nt thunder-storm in N. W.
	5 0 p. m.	23.94	65	62	23.85	62	58	77	S. W.	12	.72	....	Hazy	....	Cumulus	3-4	S. W.	....	....	....	....	Fair.
	6 0 p. m	23.93	64	62	23.85	62	60	88	S. W.	10	.50	....	Hazy	....	Cumulus	3-4	S. W.	....	....	....	....	Fair.
	7 0 p. m.	23.93	63	60	23.85	60	58	88	S. W.	12	.72	....	Hazy	....	Cumulus	2-4	S. W.	....	....	....	....	Fair.
	8 0 p. m.	23.93	61	58	23.85	58	56	88	S. W.	16	1.28	....	Hazy	....	Cumulus	2-4	S. W.	....	....	....	....	Fair.
	9 0 p. m.	23.94	63	57	23.86	57	56	94	S. W.	14	.98	....	Hazy	....	Cumulus	1-4	S. W.	....	....	....	....	Fair.
	10 0 p. m.	23.94	64	58	23.86	58	57	93	S. W.	8	.32	....	Hazy	....	Cumulus	1-4	S. W.	....	....	....	....	Fair.
	10 30 p. m.	23.94	64	57	23.86	57	56	94	S. W.	8	.32	....	Hazy	....	Cumulus	1-4	S. W.	....	....	....	....	Fair.
	12 0 p. m.	23.92	61	56	23.84	56	55	93	S. W.	16	1.28	....	Hazy	....	Cumulus	1-4	S. W.	....	....	....	....	Fair.
Knoxville, Tenn.	7 0 a. m.	29.28	75	74	29.149	73	71	90	0	0	0	....	Hazy	....	0	0	0	....	....	....	....	Fair.
	7 7 a. m.	29.28	75	74	29.149	73	71	90	0	0	0	....	Hazy	....	0	0	0	....	....	....	....	Fair.
	11 32 a. m.	29.31	82	84	29.160	83	74	64	S. W.	9	.40	128	Hazy	....	Cumulus	3-4	S. W.	....	....	....	....	Cloudy.
	2 0 p. m.	29.30	82	87	29.149	86	74	55	S. W.	12	.72	....	Hazy	....	Cumulus	1-4	S. W.	....	....	....	....	Fair.
	4 7 p. m.	29.25	85	88	29.094	87	75	55	S. W.	13	.84	....	0	0	Cumulus	2-4	S. W.	....	....	....	....	Fair.
	9 0 p. m.	29.28	82	79	29.131	78	72	73	S. W.	4	.08	....	0	0	0	0	0	....	....	....	....	Clear.
	10 32 p. m.	29.28	82	77	29.131	76	72	81	S. W.	4	.06	....	0	0	0	0	0	....	....	....	....	Clear.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction. (moving from—)	Comment'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 91	60	56	23. 83	56	55	93	S. W.	16	1. 28	....	0	0	Cumulus	1-4	S. W.	....	....	....	....	Fair.
	2 0 a. m.	23. 90	60	57	23. 82	57	56	94	N. W.	16	1. 28	....	Light fog..	....	Cumulus	1-4	0	....	....	....	....	Fair.
	3 0 a. m.	23. 90	60	56	23. 82	56	55	93	N. W.	16	1. 28	....	Light fog..	....	Cumulus	1-4	0	....	....	....	....	Fair.
	4 0 a. m.	23. 90	60	55	23. 82	55	54	93	N. W.	16	1. 28	....	Light fog..	...	Cumulus	1-4	0	....	....	....	....	Fair.
	5 0 a. m.	23. 90	59	55	23. 83	55	55	100	N. W.	16	1. 28	....	Fog	....	Hidden .	....	......	....	....	....	....	Foggy.
	6 0 a. m.	23. 92	60	56	23. 84	56	56	100	N. W.	20	2. 00	....	Fog	....	Hidden .	....	......	....	....	....	....	Foggy.
	7 14 a. m.	23. 94	60	56	23. 86	56	56	100	N. W.	16	1. 28	....	Fog	....	Hidden .	....	......	....	....	....	....	Foggy.
	8 0 a. m.	23. 95	60	57	23. 87	57	57	100	N. W.	16	1. 28	....	Fog	....	Hidden .	....	......	....	....	....	....	Foggy.
	9 0 a. m.	23. 95	62	62	23. 87	62	59	83	N. W.	13	. 84	....	Hazy.......	....	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	10 0 a. m.	23. 96	62	62	23. 88	62	59	83	N. W.	10	. 50	....	Hazy.......	....	Cumulus	2-4	W.	....	....	....	....	Fair.
	11 0 a. m.	23. 95	65	67	23. 86	67	62	74	N. W.	8	. 32	....	Hazy.......	....	Cumulus	2-4	W.	....	....	....	....	Fair.
	12 0 m...	23. 96	66	66	23. 87	66	61	73	N. W.	2	. 02	271	Hazy.......	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	1 0 p. m.	23. 94	67	65	23. 85	65	61	78	N. W.	2	. 02	....	Hazy.......	....	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	2 0 p. m.	23. 93	67	69	23. 84	69	64	75	W.	1	. 01	....	Hazy.......	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	3 0 p. m.	23. 94	69	69	23. 84	69	62	65	S. W.	4	. 08	....	Hazy.......	....	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	4 14 p. m.	23. 94	73	72	23. 84	72	62	54	N. W	4	. 08	....	Hazy.......	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	5 0 p. m.	23. 93	72	70	23. 83	70	62	61	W.	4	. 08	....	Hazy.......	....	Cumulus	2-4	W.	....	....	....	....	Fair.
	6 0 p. m.	23. 93	71	69	23. 83	69	65	80	N. W.	4	. 08	....	Hazy.......	....	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	7 0 p. m.	23. 92	67	62	23. 83	62	58	77	W.	4	. 08	....	Hazy.......	....	Cumulus	1-4	W.	....	....	....	....	Fair.
	8 0 p. m.	23. 91	64	59	23. 83	59	57	88	N. W.	4	. 08	....	Hazy.......	...	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	9 0 p. m.	23. 92	67	59	23. 83	59	59	100	W.	7	. 24	....	Fog	....	Hidden .	....	......	....	....	....	....	Foggy.
	10 0 p. m.	23. 94	68	59	23. 84	59	58	94	W.	12	. 72	....	Light fog..	....	0	0	0	....	....	....	....	Fair.
	10 30 p. m.	23. 93	67	58	23. 84	58	57	94	W.	4	. 08	....	0	0	Cirrus ..	1-4	0	....	....	....	....	Fair.
	12 0 p. m.	23. 92	65	57	23. 83	57	56	94	W.	16	1. 28	....	Light fog..	....	0	0	0	....	....	....	....	Fair.
Knoxville, Tenn..	7 0 a. m.	29. 33	79	75	29. 187	74	71	85	S. W.	4	. 08	....	0	0	0	0	0	....	....	....	....	Clear.
	7 7 a. m.	29. 33	79	75	29. 187	74	71	85	S. W.	4	. 08	...	0	0	0	0	0	....	....	....	....	Clear.
	11 32 a. m.	29. 29	84	86	29. 135	85	74	60	S. W.	8	. 32	149	0	0	Cumulus	1-4	W.	....	....	....	....	Fair.
	2 0 p. m.	29. 25	86	89	29. 091	88	75	52	S.	12	. 72	....	0	0	Cumulus	1-4	S. W.	....	....	....	....	Fair.
	4 7 p. m.	29. 25	88	92	29. 085	91	76	47	S. W.	12	. 72	....	0	0	Cumulus	1-4	W.	....	....	....	....	Fair.
	9 0 p. m.	29. 24	84	88	29. 085	81	75	74	S. W.	5	. 12	....	0	0	0	0	0	....	....	....	....	Clear.
	10 32 p. m.	29. 24	81	79	29. 094	78	74	82	S. W.	4	. 08	....	0	0	Hazy ...	....	......	....	....	....	....	Fair.

Meteorological record for July 4, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.91	65	56	23.82	56	55	93	S. W.	8	.32	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	2 0 a. m.	23.90	64	56	23.82	56	55	93	S. W.	12	.72	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	3 0 a. m.	23.88	63	57	23.80	57	56	94	W.	16	1.28	....	Light fog	....	0	0	0	....	....	....	....	Fair.
	4 0 a. m.	23.89	64	58	23.81	58	58	100	N. W.	15	1.12	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 a. m.	23.90	64	58	23.82	58	58	100	N. W.	14	.98	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 a. m.	23.90	60	57	23.82	57	57	100	W.	12	.72	....	Light fog	....	Cumulus	1-4	0	....	....	....	....	Fair.
	7 14 a. m.	23.91	62	58	23.83	58	58	100	N. W.	13	.84	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 a. m.	23.91	63	59	23.83	59	59	100	N. W.	16	1.28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 a. m.	23.93	63	59	23.85	59	59	100	N. W.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 a. m.	23.93	65	64	23.84	64	62	89	N. W.	9	.40	....	Hazy	....	Cumulus	1-4	W.	....	....	....	....	Fair.
	11 0 a. m.	23.93	66	69	23.84	69	62	65	W.	4	.08	....	Hazy	....	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	12 0 m.	23.91	65	68	23.82	68	64	79	0	0	0	197	Hazy	....	Cumulus	4-4	S. W.	....	....	....	....	Cloudy.
	1 0 p. m.	23.90	67	70	23.81	70	64	70	W.	4	.08	....	Hazy	....	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	2 0 p. m.	23.92	69	72	23.82	72	63	58	W.	8	.32	....	Hazy	....	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	3 0 p. m.	23.91	69	70	23.81	70	62	61	W.	6	.18	....	Hazy	....	Cumulus	2-4	W.	....	....	....	....	Fair.
	4 14 p. m.	23.90	69	70	23.80	70	62	61	W.	6	.18	....	Hazy	....	Cumulus	1-4	W.	....	....	....	....	Fair.
	5 0 p. m.	23.89	69	67	23.79	67	62	74	W.	8	.32	....	Hazy	....	Cumulus	1-4	W.	....	....	....	....	Fair.
	6 0 p. m.	23.87	68	65	23.78	65	62	84	N. W.	8	.32	....	Hazy	....	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	7 0 p. m.	23.87	65	63	23.78	63	60	83	N. W.	10	.50	....	Hazy	....	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	8 0 p. m.	23.87	67	62	23.78	62	60	88	N. W.	8	.32	....	Light fog	....	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	9 0 p. m.	23.87	67	61	23.78	61	61	100	S. W.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 p. m.	23.87	66	61	23.78	61	60	94	S. W.	18	1.62	....	Light fog	....	Cumulus	2-4	0	....	....	....	....	Fair.
	10 39 p. m.	23.86	65	60	23.77	60	59	94	S. W.	16	1.28	....	Light fog	....	Cumulus	2-4	0	....	....	....	....	Fair.
	12 0 p. m.	23.86	65	60	23.77	60	59	94	W.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
Knoxville, Tenn.	7 0 a. m.	29.28	81	77	29.134	76	72	81	S. W.	3	.04	....	Hazy	....	Cirrus	2-4	0	....	....	....	....	Fair.
	7 7 a. m.	29.28	81	77	29.134	76	72	81	S. W.	3	.04	....	Hazy	....	Cirrus	2-4	0	....	....	....	....	Fair.
	11 32 a. m.	29.26	86	87	29.103	86	76	61	S.	8	.32	115	0	0	Cir. & cu.	3-4	S. W.	....	....	....	....	Cloudy.
	2 0 p. m.	29.21	88	90	29.046	89	75	49	S. W.	12	.72	....	0	0	Cir. & cu.	2-4	W.	....	....	....	....	Fair.
	4 7 p. m.	29.20	88	91	29.036	90	76	49	S. W.	12	.72	....	0	0	Cir. & cu.	2-4	S. W.	....	....	....	....	Fair.
	9 0 p. m.	29.19	84	82	29.036	81	75	74	S. W.	8	.32	....	0	0	0	0	0	....	....	....	....	Clear.
	10 32 p. m.	29.17	82	79	29.022	78	70	65	S. W.	6	.18	....	0	0	0	0	0	....	....	....	....	Clear.

Meteorological record for July 5, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.84	64	58	23.76	58	58	100	N. W.	18	1.62	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 a. m.	23.84	60	55	23.76	55	55	100	N. W.	28	3.92	....	Nimbus	4-4	Hidden	....	....	1.35 a. m.	....	.24	....	Heavy rain; heavy thunder-storm from N.
	3 0 a. m.	23.82	59	54	23.75	54	54	100	N. W.	18	1.62	....	Fog	....	Hidden	....	....	....	2.20 a. m.	.08	....	Foggy.
	4 0 a. m.	23.80	58	53	23.73	53	52	93	N. W.	16	1.28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 a. m.	23.79	58	53	23.72	53	52	93	N. W.	16	1.28	....	0	0	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	6 0 a. m.	23.78	58	55	23.71	55	54	93	N. W.	22	2.42	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 14 a. m.	23.79	58	56	23.72	56	56	100	N. W.	18	1.62	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 a. m.	23.80	58	56	23.73	56	56	100	N. W.	14	.98	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 a. m.	23.81	60	57	23.73	57	57	100	N. W.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 a. m.	23.81	61	59	23.73	59	59	100	N. W.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	11 0 a. m.	23.82	64	59	23.74	59	59	100	N. W.	7	.24	....	Light fog	....	Cumulus	2-4	N. W.	....	....	....	....	Cloudy.
	12 0 m ..	23.81	65	65	23.72	65	59	68	S. E.	2	.02	290	0	0	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	1 0 p. m.	23.79	65	64	23.70	64	63	94	E.	4	.08	...	Hazy	....	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	2 0 p. m.	23.77	64	63	23.69	63	61	89	S. W.	2	.02	....	Hazy	....	Cum.-str	4-4	W.	....	....	....	....	Threatening.
	3 0 p. m.	23.76	59	55	23.69	55	55	100	W.	12	.72	....	Nimbus	4-4	Hidden			2.43 p. m.	....	.09	....	Heavy rain; thunder-storm from N.
	4 14 p. m.	23.74	58	52	23.67	52	52	100	W.	20	2.00	....	Nimbus	4-4	Hidden	....	....	....	....	.34	....	Heavy rain.
	5 0 p. m.	23.74	58	51	23.67	51	51	100	N. W.	8	.32	....	Nimbus	4-4	Hidden	....	....		....	.14	....	Light rain.
	6 0 p. m.	23.74	58	52	23.67	52	52	100	N. E.	10	.50	....	Nimbus	4-4	Hidden	....	....		....	.06	....	Light rain.
	7 0 p. m.	23.74	56	51	23.67	51	51	100	N. E.	16	1.28	....	Nimbus	4-4	Hidden	....	....	....	....	.04	....	Light rain.
	8 0 p. m.	23.73	55	50	23.67	50	50	100	N. E.	22	2.42	....	Fog	....	Hidden	...	....	....	7.45 p. m.	.03	....	Foggy.
	9 0 p. m.	23.73	55	50	23.67	50	50	100	N. E.	20	2.00	....	Nimbus	4-4	Hidden	....	....	9.00 p. m.	....	....	....	Light rain.
	10 0 p. m.	23.74	55	50	23.68	50	50	100	N.	8	.32	....	Fog	....	Hidden	....	....	....	9.50 p. m.	.05	....	Foggy.
	10 30 p. m.	23.75	55	50	23.69	50	50	100	N.	16	1.28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 p. m.	23.75	55	51	23.69	51	51	100	N. W.	18	1.62	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
Knoxville, Tenn.	7 0 a. m.	29.19	76	74	29.062	73	69	81	E.	3	.04	....	0	0	Cirrus	1-4	0	....	....	....	....	Clear.
	7 7 a. m.	29.19	77	74	29.059	73	69	81	E.	3	.04	..	0	0	Cirrus	1-4	0	....	....	....	....	Clear.
	11 32 a. m.	29.14	86	87	28.981	86	75	58	W.	5	.12	152	0	0	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	2 0 p. m.	29.15	77	68	29.014	67	66	94	E.	8	.32	....	Nimbus	4-4	Hidden	....	....	....	....	....	....	Light rain.
	4 7 p. m.	29.14	76	68	29.007	67	66	94	S. E.	3	.04	....	Stratus	4-4	Hidden	....	....	1.00 p. m.	3.45 p. m.	1.53	....	Cloudy.
	9 0 p. m.	29.15	73	68	29.025	67	65	87	N. E.	6	.18	...	0	0	Cirrus	1-4	0	....	....	....	....	Clearing.
	10 32 p. m.	29.16	74	67	29.032	66	65	92	E.	2	.02	....	0	0	0	0	0	....	....	....	....	Clear.

Meteorological record for July 6, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 73	55	51	23. 67	51	51	100	N. W.	20	2. 00	....	Fog		Hidden							Foggy.
	2 0 a. m.	23. 72	55	51	23. 66	51	51	100	N. W	24	2. 88	....	Fog		Hidden							Foggy.
	3 0 a. m.	23. 71	55	52	23. 65	52	52	100	N. W.	20	2. 00	....	Fog		Hidden							Foggy.
	4 0 a. m.	23. 72	55	52	23. 66	52	52	100	N. W.	20	2. 00	....	Fog		Hidden							Foggy.
	5 0 a. m.	23. 73	55	53	23. 67	53	53	100	N. W.	16	1. 28	....	Fog		Hidden							Foggy.
	6 0 a. m.	23. 74	55	53	23. 68	53	53	100	N. W.	16	1. 28	....	Fog		Hidden							Foggy.
	7 14 a. m.	23. 75	55	51	23. 69	51	51	100	N. W.	16	1. 28	....	Fog		Hidden							Foggy.
	8 0 a. m.	23. 76	55	52	23. 70	52	52	100	N. W.	16	1. 28	....	Fog		Hidden							Foggy.
	9 0 a. m.	23. 77	56	55	23. 70	55	54	93	N. W.	16	1. 28	....	Light fog		Cumulus	1-4	N.					Foggy.
	10 0 a. m.	23. 78	57	57	23. 71	57	54	81	N. W.	17	1. 44	....	Hazy		Cumulus	1-4	N. W.					Fair.
	11 0 a. m.	23. 79	58	58	23. 72	58	52	64	N. W.	12	. 72	....	Hazy		Cumulus	1-4	0					Fair.
	12 0 m ..	23. 78	60	59	23. 70	59	53	65	N. W.	10	. 50	361	Hazy		Cumulus	1-4	N. W.					Fair.
	1 0 p. m.	23. 79	61	61	23. 71	61	53	55	N. W.	8	. 32	....	Hazy		Cumulus	1-4	N. W.					Fair.
	2 0 p. m.	23. 78	61	61	23. 70	61	53	55	N. W.	12	. 72	....	Hazy		Cumulus	1-4	N. W.					Fair.
	3 0 p. m.	23. 78	62	61	23. 70	61	53	55	N. W.	8	. 32	....	Hazy		Cumulus	1-4	N. W.					Fair.
	4 14 p. m.	23. 77	63	60	23. 69	60	52	55	N.	8	. 32	....	Hazy		Cirrus	1-4	0					Fair.
	5 0 p. m.	23. 77	63	59	23. 69	59	51	54	N.	10	. 50	....	Hazy		Cirrus	1-4	0					Fair.
	6 0 p. m.	23. 76	61	56	23. 68	56	50	63	N. E.	16	1. 28	....	Hazy		Cirrus	1-4	0					Fair.
	7 0 p. m.	23. 75	56	54	23. 68	54	50	74	N.	28	3. 92	....	Hazy		Cirrus	1-4	0					Fair.
	8 0 p. m.	23. 77	54	56	23. 71	56	48	51	N. E.	16	1. 28	....	Hazy		Cirrus	1-4	0					Fair.
	9 0 p. m.	23. 77	57	57	23. 70	57	46	36	N. E.	16	1. 28	....	Hazy		Cirrus	1-8	0					Fair.
	10 0 p. m.	23. 76	56	56	23. 69	56	46	40	N. E.	10	. 50	....	Hazy		Cirrus	1-4	0					Fair.
	10 39 p. m.	23. 76	56	57	23. 69	57	46	37	N. E.	4	. 08	....	Hazy		Cirrus	1-4	0					Fair.
	12 0 p. m.	23. 75	56	56	23. 68	56	46	40	N. E.	2	. 02	....	0	0	Cumulus	1-4	0					Fair.
Knoxville, Tenn.	7 0 p. m.	29. 17	70	67	29. 052	66	65	94	N. E.	6	. 18	....	Stratus	4-4	Hidden							Cloudy.
	7 7 p. m.	29. 17	70	67	29. 052	66	65	94	N. E.	6	. 18	....	Stratus	4-4	Hidden			In night.	In night.	.01		Cloudy.
	11 32 p. m.	29. 18	78	80	29. 042	79	73	73	E.	6	. 18	150	Stratus	1-4	Cu. & cir.	2-4	N. W.					Cloudy.
	2 0 p. m.	29. 16	80	83	29. 017	82	69	49	N.	12	. 72	....	0	0	Cirrus	1-4	N.					Fair.
	4 7 p. m.	29. 15	81	84	29. 004	83	68	42	N.	12	. 72	....	0	0	Cirrus	1-4	0					Fair.
	9 0 p. m.	29. 13	77	74	28. 994	73	67	72	N.	4	. 08	....	0	0	0	0	0					Clear.
	10 32 p. m.	29. 13	79	71	28. 980	70	66	80	N.	6	. 18	....	0	0	Cirrus	1-4	0					Fair.

Meteorological record for July 7, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.74	56	56	23.67	56	46	40	N. E.	4	.08	....	0	0	Cumulus	2-4	0	....	....	....	....	Fair.
	2 0 a. m.	23.73	55	55	23.67	55	46	45	N. E.	4	.08	....	0	0	Cumulus	3-4	0	....	....	....	....	Cloudy.
	3 0 a. m.	23.73	55	55	23.67	55	47	50	N. E.	2	.02	....	Hazy	....	Cumulus	2-4	0	....	....	....	....	Fair.
	4 0 a. m.	23.73	55	56	23.67	56	48	51	N. W.	2	.02	....	Hazy	....	Cumulus	1-4	0	....	....	....	....	Fair.
	5 0 a. m.	23.74	55	57	23.68	57	48	47	N. W.	3	.04	....	Hazy	....	Cumulus	1-4	0	....	....	....	....	Fair.
	6 0 a. m.	23.75	56	57	23.68	57	49	52	N. W.	2	.02	....	Hazy	....	Cumulus	1-4	0	....	....	....	....	Fair.
	7 14 a. m.	23.76	59	58	23.69	59	49	48	N. W.	6	.18	....	Hazy	....	Cirrus	1-4	0	....	....	....	....	Fair.
	8 0 a. m.	23.76	58	60	23.69	60	52	55	N. W.	2	.02	....	Hazy	....	Cirrus	1-4	N. W.	....	....	....	....	Fair.
	9 0 a. m.	23.77	60	60	23.69	60	51	49	N. W.	4	.08	....	Hazy	....	Cumulus	2-4	N.	....	....	....	....	Fair.
	10 0 a. m.	23.78	62	66	23.70	66	56	49	N. W.	2	.02	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	11 0 a. m.	23.78	64	68	23.70	68	57	47	N. W.	4	.08	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	12 0 m.	23.78	64	66	23.70	66	56	49	N. W.	4	.08	188	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	1 0 p. m.	23.78	64	64	23.70	64	55	53	N. W.	6	.18	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	2 0 p. m.	23.77	64	63	23.69	63	56	62	N. W.	6	.18	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	3 0 p. m.	23.77	66	66	23.68	66	57	54	N. W.	6	.18	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	4 14 p. m.	23.75	67	65	23.66	65	58	63	N. W.	6	.18	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	5 0 p. m.	23.75	68	64	23.66	64	57	62	N. W.	8	.32	....	Hazy	....	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	6 0 p. m.	23.74	64	58	23.66	58	54	76	N. W.	8	.32	....	Hazy	....	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	7 0 p. m.	23.73	65	56	23.64	56	55	94	S. W.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 p. m.	23.73	64	54	23.65	54	54	100	S. W.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 p. m.	23.73	62	54	23.65	54	54	100	S. W.	18	1.62	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 p. m.	23.73	60	54	23.66	54	53	93	S. W.	20	2.00	....	Light fog	....	Cumulus	3-4	S. W.	....	....	....	....	Cloudy.
	10 39 p. m.	23.73	59	54	23.66	54	54	100	S. W.	16	1.28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 p. m.	23.72	59	54	23.65	54	54	100	S. W.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
Knoxville, Tenn.	7 0 a. m.	29.13	71	70	29.010	69	64	75	N.	9	.40	....	0	0	0	0	0	....	....	....	....	Clear.
	7 7 a. m.	29.13	71	70	29.010	69	64	75	N.	9	.40	....	0	0	0	0	0	....	....	....	....	Clear.
	11 32 a. m.	29.14	79	81	28.999	80	71	61	N. E.	3	.04	150	0	0	0	0	0	....	....	....	....	Clear.
	2 0 p. m.	29.10	81	84	28.954	83	69	46	N.	4	.08	....	0	0	Cir. & cu.	3-4	N. W.	....	....	....	....	Fair.
	4 7 p. m.	29.09	80	85	28.947	84	72	53	S.	3	.04	....	0	0	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	9 0 p. m.	29.06	78	75	28.922	74	71	85	S.	2	.02	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	10 32 p. m.	29.06	78	73	28.922	72	70	90	0	0	0	....	0	0	Hazy	....	....	....	....	....	....	Fair.

Meteorological record for July 8, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.70	58	54	23.63	54	53	93	S.W.	22	2.42	....	Light fog	.....	Cumulus	4-4	S.W.	....	....	....	....	Cloudy.
	2 0 a. m	23.68	58	55	23.61	55	55	100	S.W.	20	2.00	....	Fog	.....	Hidden..	....	.....	....	....	....	....	Foggy.
	3 0 a. m.	23.67	58	54	23.60	54	54	100	S.W.	24	2.88	....	Fog	.....	Hidden..	....	.....	....	....	....	....	Foggy.
	4 0 a. m.	23.67	58	54	23.60	54	54	100	S.W.	25	3.12	....	Fog	.....	Cumulus	2-4	0	....	....	....	....	Cloudy.
	5 0 a. m.	23.67	59	54	23.60	54	54	100	S.W.	16	1.28	....	Light fog	.....	Cumulus	1-4	0	....	....	....	....	Fair.
	6 0 a. m.	23.65	57	53.5	23.58	53.5	53	97	S.W.	28	3.92	....	Nimbus	2-4	Cumulus	2-4	S.W.	5.50 a. m.	....	.02	....	Light rain.
	7 14 a. m.	23.65	57	53	23.58	53	53	100	S W.	12	.72	....	Fog	.....	Hidden..	....	.....	....	6.10. a. m.	.01	....	Foggy.
	8 0 a. m.	23.66	58	53	23.59	53	52.5	96	S.W.	16	1.28	....	Fog	.....	Hidden..	....	.....	....	....	....	....	Foggy.
	9 0 a. m.	23.66	57	53	23.59	53	52	93	S.W.	16	1.28	....	Fog	.....	Hidden..	....	.....	....	....	....	....	Foggy.
	10 0 a. m.	23.62	53	52	23.57	52	51	93	S.W.	20	2.00	....	Fog	.....	Hidden..	....	.....	....	....	....	....	Foggy.
	11 0 a. m.	23.64	55	52	23.58	52	51	93	S.W.	20	2.00	....	Fog	.....	Hidden..	....	.....	....	....	....	....	Foggy.
	12 0 m..	23.64	57	56	23.57	56	53	81	N. W.	16	1.28	349	Hazy	.....	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	1 0 p. m.	23.65	60	54	23.59	54	53	93	N. W.	8	.32	....	Hazy	.....	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	2 0 p. m.	23.65	59	53	23.59	53	52	93	N. W.	16	1.28	....	Fog	.....	Hidden..	....	.....	....	....	....	....	Foggy.
	3 0 p. m.	23.62	58	54	23.55	54	53	93	N. W.	16	1.28	....	Fog	.....	Hidden..	....	.....	....	....	....	....	Foggy.
	4 14 p. m.	23.60	57	52	23.53	52	52	100	N. W.	20	2.00	....	Fog	.....	Hidden..	....	.....	....	....	....	....	Foggy.
	5 0 p. m.	23.58	56	52	23.51	52	52	100	N. W.	24	2.88	....	Fog	.....	Hidden..	....	.....	....	....	....	....	Foggy.
	6 0 p. m.	23.62	60	58	23.55	52	52	100	N. W.	28	3.92	....	Fog	.....	Hidden..	....	.....	....	....	....	....	Foggy.
	7 0 p. m.	23.69	63	51	23.61	51	51	100	N. W.	12	.72	....	Fog	.....	Hidden..	....	.....	....	....	....	....	Foggy.
	8 0 p. m.	23.69	63	51	23.61	51	51	100	N. W.	18	1.62	....	Fog	.....	Hidden..	....	.....	....	....	....	....	Foggy.
	9 0 p. m.	23.69	62	51	23.61	51	51	100	N. W.	12	.72	....	Fog	.....	Hidden..	....	.....	....	....	....	....	Foggy.
	10 0 p. m.	23.70	63	50	23.62	50	50	100	N. W.	12	.72	....	Fog	.....	Hidden..	....	.....	....	....	....	....	Foggy.
	10 30 p. m.	23.70	62	50	23.62	50	50	100	N. W.	12	.72	....	Fog	.....	Hidden..	....	.....	....	....	....	....	Foggy.
	12 0 p. m	23.71	60	50	23.64	50	50	100	N. W.	12	.72	....	Light fog	.....	Hidden..	....	.....	....	....	....	....	Foggy.
Knoxville, Tenn..	7 0 a. m.	29.06	73	69	28.935	68	65	84	S W.	8	.32	...	Stratus..	4-4	Hidden..	....	.....	....	....	....	....	Cloudy.
	7 7 a. m.	29.06	73	69	28.935	68	65	84	S.W.	9	.32	...	Stratus..	4-4	Hidden..	....	.....	In night.	5.00 a. m.	.07	....	Cloudy.
	11 32 a. m.	29.08	80	77	28.937	76	69	69	S.W.	4	.08	141	0	0	Cumulus	3-4	W.	....	....	....	....	Clearing.
	2 0 p. m.	29.05	79	77	28.909	76	68	67	N. W.	11	.60	....	Stratus..	4-4	Hidden..	....	.....	....	....	....	....	Cloudy.
	4 7 p. m.	29.04	76	76	28.907	75	67	74	N.	12	.72	....	0	0	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	9 0 p. m.	29.08	77	72	28.944	71	66	75	N.	8	.32	....	0	0	Cumulus	1-4	0	....	....	....	....	Fair.
	10 32 p. m.	29.09	77	71	28.954	70	66	79	N.	8	.32	....	0	0	0	0	0	....	....	....	....	Clear.

Meteorological record for July 9, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 70	58	51	23. 63	51	50	93	N. W.	16	1. 28	....	Fog.......	....	Cir., cu .	3-4	0	....	....	....	....	Cloudy.
	2 0 a. m.	23. 69	56	50	23. 62	50	49	93	N. E.	12	. 72	....	0	0	Cir., cu .	2-4	0	....	....	....	....	Fair.
	3 0 a. m.	23. 69	56	50	23. 61	50	48	86	N. E.	12	. 72	...	0	0	Cirrus ..	1-4	0	....	....	....	....	Fair.
	4 0 a. m.	23. 68	59	49	23. 61	49	47	85	N. E.	12	. 72	....	Light fog.	....	Cumulus	2-4	0	....	....	....	....	Fair.
	5 0 a. m.	23. 69	58	53	23. 62	53	48	67	N. E.	8	. 32	....	Hazy	....	Cirrus ..	1-4	0	....	....	....	....	Fair.
	6 0 a. m.	23. 70	60	57	23. 63	57	49	92	N. E.	8	. 32	....	Hazy	....	Cirrus ..	1-4	0	....	....	....	....	Fair.
	7 14 a. m.	23. 71	58	56	23. 64	56	49	57	N. E.	4	. 08	....	Hazy	....	Cir., cu	2-4	N. W.	....	....	....	....	Fair.
	8 0 a. m.	23. 72	58	56	23. 65	56	51	69	N. E.	5	. 12	....	Hazy	....	Cumulus	1-4	N. E.	....	....	....	....	Fair.
	9 0 a. m.	23. 74	57	55	23. 67	55	53	89	S. E.	1	. 00	....	Hazy	....	Cumulus	3-4	S. E.	....	....	....	....	Cloudy.
	10 0 a. m.	23. 73	58	56	33. 68	56	53	81	0	0	0	....	Hazy	....	Cumulus	3-4	S. E.	....	....	....	....	Cloudy.
	11 0 a. m.	23. 75	60	57	23. 67	37	54	81	N. W.	1	. 01	....	Stratus ...	2-4	Cumulus	1-4	S. E.	....	....	....	....	Cloudy.
	12 0 m...	23. 73	62	61	23. 67	61	56	71	N. W.	1	. 01	266	Hazy	....	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	1 0 p. m.	23. 75	64	60	23. 67	60	55	78	N. W.	4	. 08	....	Hazy	....	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	2 0 p. m.	23. 76	66	61	23. 67	61	57	77	N. W.	2	. 02	....	Hazy	....	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	3 0 p. m.	23. 76	67	63	23. 67	63	57	72	N. E.	1	. 01	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	4 14 p. m.	23. 76	67	64	23. 67	64	58	67	N. E.	2	. 02	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	5 0 p. m.	23. 76	64	56	23. 68	56	53	81	N. E.	1	. 01	....	Hazy	....	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	6 0 p. m.	23. 76	63	55	23. 68	55	53	89	N. E.	5	. 12	....	Stratus. ..	1-4	Cumulus	2-4	0	....	....	....	....	Cloudy.
	7 0 p. m.	23. 75	64	52	23. 67	52	51	93	N.	2	. 02	....	Hazy	....	Cirrus ..	2-4	0	....	....	....	....	Fair.
	8 0 p. m.	23. 76	66	52	23. 67	52	52	100	N. E.	6	. 18	....	Fog.......	....	Hidden .	....	......	....	....	....	....	Foggy.
	9 0 p. m.	23. 77	66	52	23. 68	52	52	100	N. E.	8	. 32	....	Fog.......	....	Hidden .	....	......	....	....	....	....	Foggy.
	10 0 p. m.	23. 76	65	52	23. 67	52	52	100	E.	8	. 32	....	Fog.......	....	Hidden .	....	......	....	....	....	....	Foggy.
	10 39 p. m	23. 76	65	53	23. 67	53	53	100	E.	2	. 02	....	Nimbus...	4-4	Hidden .	....	......	10.25 p. m.	10.45 p. m.	. 02	....	Light rain.
	12 0 p. m.	23. 73	64	52	23. 67	52	52	100	E.	4	. 08	....	Fog.......	....	Hidden	....	......	....	....	....	....	Foggy.
Knoxville, Tenn .	7 0 a. m.	29. 13	75	70	29. 000	69	66	84	N. E.	8	. 32	....	0	0	0	0	0	....	....	....	....	Clear.
	7 7 a. m.	29. 13	75	70	29. 000	69	66	84	N. E.	8	. 32	....	0	0	0	0	0	....	....	....	....	Clear.
	11 32 a. m.	29. 14	77	78	29. 004	77	68	60	E.	8	. 32	169	0	0	Cumulus	2-4	E.	....	....	....	....	Fair.
	2 0 p. m.	29. 10	80	84	28. 957	83	70	51	E.	4	. 08	....	0	0	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	4 7 p. m.	29. 10	81	84	28. 954	83	67	39	N.	8	. 32	....	0	0	Cumulus	2-4	N. E.	....	....	....	....	Fair.
	9 0 p. m.	29. 11	77	74	28. 974	73	65	65	N.	3	. 04	....	0	0	0	0	0	....	....	....	....	Clear.
	10 32 p. m.	29. 11	76	72	28. 977	71	64	65	N.	4	. 08	....	0	0	0	0	0	....	....	....	....	Clear.

Meteorological record for July 10, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.74	63	52	23.66	52	52	100	E.	4	.08	....	Dense fog	....	Hidden	....	....	12.45 a. m.	....	.05	....	Light rain.
	2 0 a. m.	23.72	61	51	23.64	51	51	100	S. E.	4	.08	....	Fog	....	Hidden	....	....	....	1.55 a. m.	.13	....	Foggy.
	3 0 a. m.	23.70	59	51	23.63	51	51	100	S. W.	12	.72	....	0	0	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	4 0 a. m.	23.70	59	50	23.63	50	49	93	S. W.	8	.32	....	Fog	....	Cumulus	2-4	W.	....	....	....	....	Fair.
	5 0 a. m.	23.71	57	51	23.64	51	51	100	S. W.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 a. m.	23.72	60	53	23.64	53	53	100	W.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 14 a. m.	23.74	62	54	23.66	54	53	93	W.	6	.18	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 a. m.	23.74	58	56	23.67	56	55	94	W.	6	.18	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 a. m.	23.75	60	57	23.67	57	56	94	W.	7	.24	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 a. m.	23.76	60	57	23.68	57	56	94	N. W.	8	.32	....	Light fog	....	Cumulus	2-4	N. W.	....	....	....	....	Cloudy.
	11 0 a. m.	23.75	61	61	23.67	61	57	77	W.	8	.32	..	Fog	....	Cumulus	3-4	N. W.	....	....	....	....	Foggy.
	12 0 m ..	23.75	59	56	23.68	56	54	87	S. W.	8	.32	137	Nimbus	4-4	Hidden	....	....	11.45 a. m.	....	.20	....	Heavy rain.
	1 0 p. m.	23.74	62	60	23.66	60	58	88	S. W.	6	.18	....	Fog	....	Cumulus	2-4	W.	....	12.10 p. m.	.02	....	Cloudy.
	2 0 p. m.	23.74	64	61	23.66	61	58	82	W.	5	.12	....	Light fog	....	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	3 0 p. m.	23.73	62	55	23.65	55	55	100	W.	6	.18	....	Nimbus	4-4	Hidden	...	....	2.45 p. m.	....	.09	....	Light rain.
	4 14 p. m.	23.72	64	59	23.64	59	57	88	N. W.	4	.08	....	Light fog	....	Cumulus	3-4	N. W.	....	3.50 p. m.	.01	....	Cloudy.
	5 0 p. m.	23.72	60	58	23.64	58	57	94	S. W.	4	.08	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 p. m.	23.72	60	57	23.64	57	56	94	S.	4	.08	....	Hazy	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	7 0 p. m.	23.72	58	53	23.65	53	53	100	S.	6	.18	...	Fog	....	Cumulus	2-4	0	....	....	....	....	Cloudy.
	8 0 p. m.	23.73	65	52	23.64	52	52	100	S.	4	.08	....	Light fog	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	9 0 p. m.	23.74	65	51	23.65	51	50	93	S.	6	.18	...	0	0	Cumulus	2-4	0	....	....	....	....	Fair.
	10 0 p. m.	23.73	63	51	23.65	51	50	93	S. E.	7	.24	...	Light fog	....	Cumulus	2-4	0	....	....	....	....	Fair.
	10 30 p. m.	23.73	62	51	23.65	51	49.5	89	W.	4	.08	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	12 0 p. m.	23.70	57	50	23.64	50	49	93	W.	20	2.00	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
Knoxville, Tenn.	7 0 a. m.	29.10	72	67	28.977	66	63	84	N.	3	.04	...	0	0	Cumulus	2-4	W.	....	....	....	....	Fair.
	7 7 a. m.	29.10	72	67	28.977	66	63	84	N.	3	.04	....	0	0	Cumulus	2-4	W.	....	....	....	....	Fair.
	11 32 a. m.	29.12	79	81	28.979	80	70	58	S. W.	4	.08	95	0	0	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	2 0 p. m.	29.07	82	82	28.922	81	68	47	N.	11	.61	....	0	0	Cumulus	2-4	W.	....	....	...	....	Fair.
	4 7 p. m.	29.05	82	84	28.902	83	71	52	N. E.	4	.08	....	0	0	Cumulus	3-4	W.	....	....	....	....	Fair.
	9 0 p. m.	29.08	80	75	28.937	74	65	61	N.	4	.08	....	0	0	0	0	0	....	....	....	....	Clear.
	10 32 p. m.	29.09	77	71	28.954	70	65	75	N.	3	.04	....	0	0	0	0	0	....	....	....	....	Clear.

Meteorological record for July 11, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m	23.69	57	51	23.62	51	50	93	W.	20	2.00	....	Light fog	....	Cirrus	1-4	0	....	....	....	....	Fair.
	2 0 a. m.	23.68	56	51	23.62	51	51	100	W.	16	1.28	....	Light fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 a. m.	23.69	55	52	23.62	52	52	100	W.	16	1.28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 0 a. m.	23.70	55	52	23.64	52	52	100	W.	17	1.44	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 a. m.	23.71	55	52	23.65	52	52	100	W.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 a. m.	23.72	61	53	23.64	53	53	100	N. W.	12	.72	....	Light fog	....	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	7 14 a. m.	23.73	62	53	23.65	53	52	93	N. W.	12	.72	....	Hazy	....	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	8 0 a. m.	23.73	62	54	23.65	54	52.5	90	N. W.	16	1.28	....	Hazy	....	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	9 0 a. m.	23.74	59	57	23.67	57	53	75	N. W.	8	.32	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	10 0 a. m.	23.77	62	60	23.69	60	54	65	N. W.	5	.12	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	11 0 a. m.	23.78	63	62	23.70	62	56	66	N. W.	4	.08	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	12 0 m...	23.78	64	59	23.70	59	54	70	N.	4	.08	213	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	1 0 p. m.	23.78	64	59	23.70	59	55	76	N. E.	4	.08	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	2 0 p. m.	23.78	65	63	23.69	63	58	72	N.	2	.02	....	Light fog	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	3 0 p. m.	23.78	65	64	23.69	64	59	73	N. W.	3	.04	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	4 14 p. m.	23.77	64	63	23.69	63	58	72	N. W.	2	.02	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	5 0 p. m.	23.78	69	63	23.69	63	58	72	0	0	0	....	Hazy	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	6 0 p. m.	23.79	67	58	23.70	58	55	82	N. W.	1	.01	....	Hazy	....	Cumulus	3-4	S. E.	....	....	....	....	Cloudy.
	7 0 p. m.	23.79	68	56	23.70	56	55	93	N. E.	5	.12	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 p. m.	23.81	69	55	23.72	55	55	100	E.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 p. m.	23.81	67	55	23.72	55	54	94	E.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 p. m.	23.81	66	54	23.72	54	53	93	E.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 39 p. m.	23.82	67	54	23.73	54	53	93	E.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 p. m	23.81	64	54	23.73	54	53	93	E.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
Knoxville, Tenn.	7 0 a. m.	29.12	73	69	28.995	68	64	79	N. E.	4	.08	....	0	0	0	0	0	....	....	....	....	Clear.
	7 7 a. m.	29.12	73	69	28.995	68	64	79	N. E.	4	.08	....	0	0	0	0	0	....	....	....	....	Clear.
	11 32 a. m.	29.15	79	80	29.009	79	68	54	N. W.	8	.32	105	0	0	0	0	0	....	....	....	....	Clear.
	2 0 p. m.	29.11	81	83	28.964	82	67	41	N.	8	.32	....	0	0	Cumulus	1-4	N. E.	....	....	....	....	Fair.
	4 7 p. m.	29.11	84	86	28.956	85	68	42	N.	8	.32	....	0	0	Cumulus	1-8	N. E.	....	....	....	....	Clear.
	9 0 p. m.	29.12	79	75	28.979	74	70	81	0	0	0	....	Stratus	1-4	0	0	0	....	....	....	....	Fair.
	10 32 p. m.	29.14	78	74	29.002	73	71	90	N. E.	2	.02	....	0	0	Cumulus	1-4	S. W.	....	....	....	....	Fair.

Meteorological record for July 10, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.74	63	52	23.66	52	52	100	E.	4	.08	....	Dense fog	....	Hidden	....	....	12.45 a. m.	....	.05	....	Light rain.
	2 0 a. m.	23.72	61	51	23.64	51	51	100	S. E.	4	.08	....	Fog	....	Hidden	....	....	....	1.55 a. m.	.13	....	Foggy.
	3 0 a. m.	23.70	59	51	23.63	51	51	100	S. W.	12	.72	....	0	0	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	4 0 a. m.	23.70	59	50	23.63	50	49	93	S. W.	8	.32	....	Fog	....	Cumulus	2-4	W.	....	....	....	....	Fair.
	5 0 a. m.	23.71	57	51	23.64	51	51	100	S. W.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 a. m.	23.72	60	53	23.64	53	53	100	W.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 14 a. m.	23.74	62	54	23.66	54	53	93	W.	6	.18	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 a. m.	23.74	58	56	23.67	56	55	94	W.	6	.18	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 a. m.	23.75	60	57	23.67	57	56	94	W.	7	.24	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 a. m.	23.76	60	57	23.68	57	56	94	N. W.	8	.32	....	Light fog	....	Cumulus	2-4	N. W.	....	....	....	....	Cloudy.
	11 0 a. m.	23.75	61	61	23.67	61	57	77	W.	8	.32	....	Fog	....	Cumulus	3-4	N. W.	....	....	....	....	Foggy.
	12 0 m.	23.75	59	56	23.68	56	54	87	S. W.	8	.32	137	Nimbus	4-4	Hidden	....	....	11.45 a. m.	....	.20	....	Heavy rain.
	1 0 p. m.	23.74	62	60	23.66	60	58	88	S. W.	6	.18	....	Fog	....	Cumulus	2-4	W.	....	12.10 p. m.	.02	....	Cloudy.
	2 0 p. m.	23.74	64	61	23.66	61	58	82	W.	5	.12	....	Light fog	....	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	3 0 p. m.	23.73	62	55	23.65	55	55	100	W.	6	.18	....	Nimbus	4-4	Hidden	....	....	2.45 p. m.	....	.09	....	Light rain.
	4 14 p. m.	23.72	64	59	23.64	59	57	88	N. W.	4	.08	....	Light fog	....	Cumulus	3-4	N. W.	....	3.50 p. m.	.01	....	Cloudy.
	5 0 p. m.	23.72	60	58	23.64	58	57	94	S. W.	4	.08	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 p. m.	23.72	60	57	23.64	57	56	94	S.	4	.08	....	Hazy	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	7 0 p. m.	23.72	58	53	23.65	53	53	100	S.	6	.18	....	Fog	....	Cumulus	2-4	0	....	....	....	....	Cloudy.
	8 0 p. m.	23.73	65	52	23.64	52	52	100	S.	4	.08	....	Light fog	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	9 0 p. m.	23.74	65	51	23.65	51	50	93	S.	6	.18	....	0	0	Cumulus	2-4	0	....	....	....	....	Fair.
	10 0 p. m.	23.73	63	51	23.65	51	50	93	S. E.	7	.24	....	Light fog	....	Cumulus	2-4	0	....	....	....	....	Fair.
	10 39 p. m.	23.73	62	51	23.65	51	49.5	89	W.	4	.08	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	12 0 p. m.	23.70	57	50	23.64	50	49	93	W.	20	2.00	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
Knoxville, Tenn.	7 0 a. m.	29.10	72	67	28.977	66	63	84	N.	3	.04	....	0	0	Cumulus	2-4	W.	....	....	....	....	Fair.
	7 7 a. m.	29.10	72	67	28.977	66	63	84	N.	3	.04	....	0	0	Cumulus	2-4	W.	....	....	....	....	Fair.
	11 32 a. m.	29.12	79	81	28.979	80	70	58	S. W.	4	.08	95	0	0	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	2 0 p. m.	29.07	82	82	28.922	81	68	47	N.	11	.61	....	0	0	Cumulus	2-4	W.	....	....	....	....	Fair.
	4 7 p. m.	29.05	82	84	28.902	83	71	52	N. E.	4	.08	....	0	0	Cumulus	3-4	W.	....	....	....	....	Fair.
	9 0 p. m.	29.08	80	75	28.937	74	65	61	N.	4	.08	....	0	0	0	0	0	....	....	....	....	Clear.
	10 32 p. m.	29.09	77	71	28.954	70	65	75	N.	3	.04	....	0	0	0	0	0	....	....	....	....	Clear.

Meteorological record for July 11, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m	23. 69	57	51	23. 62	51	50	93	W.	20	2. 00	....	Light fog	....	Cirrus	1-4	0	....	....	....	....	Fair.
	2 0 a. m.	23. 68	56	51	23. 62	51	51	100	W.	16	1. 28	....	Light fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 a. m.	23. 69	55	52	23. 62	52	52	100	W.	16	1. 28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 0 a. m.	23. 70	55	52	23. 64	52	52	100	W.	17	1. 44	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 a. m.	23. 71	55	52	23. 65	52	52	100	W.	12	. 72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 a. m.	23. 72	61	53	23. 64	53	53	100	N. W.	12	. 72	....	Light fog	....	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	7 14 a. m.	23. 73	62	53	23. 65	53	52	93	N. W.	12	. 72	....	Hazy	....	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	8 0 a. m.	23. 73	62	54	23. 65	54	52. 5	90	N. W.	16	1. 28	....	Hazy	....	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	9 0 a. m.	23. 74	59	57	23. 67	57	53	75	N. W.	8	. 32	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	10 0 a. m.	23. 77	62	60	23. 69	60	54	65	N. W.	5	. 12	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	11 0 a. m.	23. 78	63	62	23. 70	62	56	66	N. W.	4	. 08	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	12 0 m	23. 78	64	59	23. 70	59	54	70	N.	4	. 08	213	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	1 0 p. m.	23. 78	64	59	23. 70	59	55	76	N. E.	4	. 08	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	2 0 p. m.	23. 78	65	63	23. 69	63	58	72	N.	2	. 02	....	Light fog	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	3 0 p. m.	23. 78	65	64	23. 69	64	59	73	N. W.	3	. 04	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	4 14 p. m.	23. 77	64	63	23. 69	63	58	72	N. W.	2	. 02	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	5 0 p. m.	23. 78	69	63	23. 69	63	58	72	0	0	0	....	Hazy	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	6 0 p. m.	23. 79	67	58	23. 70	58	55	82	N. W.	1	. 01	....	Hazy	....	Cumulus	3-4	S. E.	....	....	....	....	Cloudy.
	7 0 p. m.	23. 79	68	56	23. 70	56	55	93	N. E.	5	. 12	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 p. m.	23. 81	69	55	23. 72	55	55	100	E.	8	. 32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 p. m.	23. 81	67	55	23. 72	55	54	94	E.	12	. 72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 p. m.	23. 81	66	54	23. 72	54	53	93	E.	12	. 72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 39 p. m.	23. 82	67	54	23. 73	54	53	93	E.	12	. 72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 p. m.	23. 81	64	54	23. 73	54	53	93	E.	12	. 72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
Knoxville, Tenn.	7 0 a. m.	29. 12	73	69	28. 995	68	64	79	N. E.	4	. 08	....	0	0	0	0	0	....	....	....	....	Clear.
	7 7 a. m.	29. 12	73	69	28. 995	68	64	79	N. E.	4	. 08	....	0	0	0	0	0	....	....	....	....	Clear.
	11 32 a. m.	29. 15	79	80	29. 009	79	68	54	N. W.	8	. 32	105	0	0	0	0	0	....	....	....	....	Clear.
	2 0 p. m.	29. 11	81	83	28. 964	82	67	41	N.	8	. 32	....	0	0	Cumulus	1-4	N. E.	....	....	....	....	Fair.
	4 7 p. m.	29. 11	84	86	28. 956	85	68	42	N.	8	. 32	....	0	0	Cumulus	1-8	N. E.	....	....	....	....	Clear.
	9 0 p. m.	29. 12	79	73	28. 979	74	70	81	0	0	0	....	Stratus	1-4	0	0	0	....	....	....	....	Fair.
	10 32 p. m.	29. 14	78	74	29. 002	73	71	90	N. E.	2	. 02	....	0	0	Cumulus	1-4	S. W.	....	....	....	....	Fair.

Meteorological record for July 12, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 80	63	54	23. 72	54	53	93	E.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 a. m.	23. 80	63	53	23. 72	53	53	100	E.	16	1. 28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 a. m.	23. 80	60	53	23. 72	53	53	100	E.	12	.72	....	Fog	....	Cumulus	3-4	S. E.	....	....	....	....	Cloudy.
	4 0 a. m.	23. 81	59	54	23. 71	54	53	93	E.	12	.72	....	Light fog	....	Cumulus	2-4	0	....	....	....	....	Fair.
	5 0 a. m.	23. 82	59	55	23. 75	55	54	93	E.	18	1. 62	....	Light fog	....	Cumulus	2-4	0	....	....	....	....	Fair.
	6 0 a. m.	23. 83	59	56	23. 76	56	54	87	E.	14	.98	....	Light fog	....	Cumulus	2-4	0	....	....	....	....	Fair.
	7 14 a. m.	23. 85	59	57	23. 78	57	55	87	E.	8	.32	....	Fog	....	Cumulus	1-4	0	....	....	....	....	Foggy.
	8 0 a. m.	23. 86	59	57	23. 79	57	57	100	E.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 a. m.	23. 87	61	55	23. 79	55	54	93	E.	10	.50	....	Nimbus	4-4	Hidden	....	....	8. 50 a. m.	....	.02	....	Light rain.
	10 0 a. m.	23. 88	63	59	23. 80	59	58	94	E.	12	.72	....	Nimbus	4-4	Hidden	....	....	....	....	.04	....	Light rain.
	11 0 a. m.	23. 87	64	64	23. 79	64	60	78	E.	12	.72	....	Fog	....	Cumulus	3-4	0	....	10.00 a. m.	.01	....	Cloudy.
	12 0 m.	23. 88	67	66	23. 79	66	60	69	E.	8	.32	217	Fog	....	Cumulus	3-4	S. E.	....	....	....	....	Cloudy.
	1 0 p. m.	23. 88	67	67	23. 79	67	60	64	S. E.	4	.08	....	Fog	....	Cumulus	3-4	S. W.	....	....	....	....	Cloudy.
	2 0 p. m.	23. 88	66	64	23. 79	64	58	67	E.	8	.32	....	Hazy	....	Cumulus	2-4	S. E.	....	....	....	....	Fair.
	3 0 p. m.	23. 88	63	64	23. 80	64	58	67	S. E.	8	.32	....	Hazy	....	Cumulus	2-4	0	....	....	....	....	Fair.
	4 14 p. m.	23. 87	62	58	23. 79	58	56	88	S. E.	15	1. 12	....	Light fog	....	Cumulus	1-4	0	....	....	....	....	Fair.
	5 0 p. m.	23. 87	58	54	23. 80	54	53	93	S. E.	13	.84	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 p. m.	23. 87	57	54	23. 80	54	51	80	E.	12	.72	....	Hazy	....	Cumulus	2-4	S. E.	....	....	....	....	Fair.
	7 0 p. m.	23. 87	62	53	23. 79	53	53	100	E.	14	.98	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 p. m.	23. 89	65	53	23. 80	53	53	100	E.	16	1. 28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 p. m.	23. 91	65	54	23. 82	54	54	100	E.	14	.98	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 p. m.	23. 91	65	54	23. 82	54	54	100	E.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 30 p. m.	23. 91	65	54	23. 82	54	54	100	E.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 p. m.	23. 90	64	53	23. 82	53	53	100	E.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
Knoxville, Tenn.	7 0 a. m.	29. 20	75	71	29. 075	70	67	84	N. E.	4	.08	....	0	0	0	0	0	....	....	....	....	Clear.
	7 7 a. m.	29. 20	75	71	29. 075	70	67	84	N. E.	4	.08	....	0	0	0	0	0	....	....	....	....	Clear.
	11 32 a. m.	29. 22	83	84	29. 069	83	72	56	E.	4	.08	97	0	0	Cumulus	1-4	W.	....	....	....	....	Fair.
	2 0 p. m.	29. 20	82	81	29. 052	80	70	58	S. E.	16	1. 28	....	Stratus	1-4	Cumulus	1-4	0	....	....	....	....	Threatening.
	4 7 p. m.	29. 20	82	79	29. 052	78	69	61	S. W.	5	.12	....	Stratus	2-4	Cumulus	3-4	0	....	....	....	....	Cloudy.
	9 0 p. m.	29. 25	79	75	29. 109	74	70	81	E.	3	.04	....	0	0	0	0	0	....	....	....	....	Clear.
	10 32 p. m.	29. 25	79	73	29. 109	72	68	83	S. E.	3	.04	....	0	0	Cumulus	1-4	0	....	....	....	....	Fair.

Meteorological record for July 13, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.89	63	52	23.81	52	52	100	S. E.	12	.72	....	Fog	...	Hidden	...	...	...	...	...	...	Foggy.
	2 0 a. m.	23.88	62	52	23.80	52	52	100	S. E.	12	.72	....	Fog	...	Hidden	...	...	...	...	...	...	Foggy.
	3 0 a. m.	23.88	60	51	23.80	51	51	100	S. E.	14	.98	....	Fog	...	Hidden	...	...	...	...	...	...	Foggy.
	4 0 a. m.	23.89	63	50	23.81	50	50	100	S. E.	12	.72	....	Fog	...	Hidden	...	...	...	...	...	...	Foggy.
	5 0 a. m.	23.90	62	51	23.82	51	51	100	S. E.	16	1.28	....	Fog	...	Hidden	...	...	...	...	...	...	Foggy.
	6 0 a. m.	23.92	62	53	23.84	53	53	100	S. E.	16	1.28	....	Fog	...	Hidden	...	...	...	...	...	...	Foggy.
	7 14 a. m.	23.93	62	56	23.85	56	55	94	S. E.	16	1.28	....	Light fog	...	0	0	0	...	...	...	...	Foggy.
	8 0 a. m.	23.95	64	58	23.87	58	55	82	S. E.	12	.72	....	Light fog	...	0	0	0	...	...	...	...	Foggy.
	9 0 a. m.	23.95	63	59	23.87	59	55	76	S. E.	12	.72	....	Hazy	...	Cumulus	1-4	S. E.	...	...	...	...	Fair.
	10 0 a. m.	23.97	63	62	23.89	62	57	72	S. E.	12	.72	....	Hazy	...	Cumulus	1-4	S. E.	...	...	...	...	Fair.
	11 0 a. m.	23.98	65	65	23.89	65	59	68	S. E.	4	.08	....	Hazy	...	Cumulus	1-4	0	...	...	...	...	Fair.
	12 0 m ..	23.97	64	64	23.89	64	58	67	S. E.	4	.08	285	Hazy	...	Cumulus	1-4	0	...	...	...	...	Fair.
	1 0 p. m.	23.97	66	65	23.88	65	58	63	E.	5	.12	....	Hazy	...	Cumulus	1-4	S. E.	...	...	...	...	Fair.
	2 0 p. m.	23.97	68	64	23.88	64	58	67	E.	8	.32	....	Hazy	...	Cumulus	1-4	S. E.	...	...	...	...	Fair.
	3 0 p. m.	23.96	67	63	23.87	63	58	72	E.	10	.50	....	Hazy	...	Cumulus	1-4	S. E.	...	...	...	...	Fair.
	4 14 p. m.	23.95	64	62	23.87	62	57	72	E.	7	.24	....	Hazy	...	Cumulus	1-4	S. E.	...	...	...	...	Fair.
	5 0 p. m.	23.95	62	60	23.87	60	57	82	E.	9	.40	....	Hazy	...	Cumulus	1-4	0	...	...	...	...	Fair.
	6 0 p. m.	23.95	62	58	23.87	58	55	82	E.	9	.40	....	Hazy	...	Cumulus	1-4	0	...	...	...	...	Fair.
	7 0 p. m.	23.96	63	51	23.88	51	49	86	E.	12	.72	....	Light fog	...	Cumulus	1-4	0	...	...	...	...	Fair.
	8 0 p. m.	23.95	63	52	23.87	52	50	86	E.	12	.72	...	Light fog	...	Cumulus	1-4	0	...	...	...	...	Fair.
	9 0 p. m.	23.95	61	53	23.87	53	53	100	E.	14	.98	....	Fog	...	Hidden	...	...	...	...	...	...	Foggy.
	10 0 p. m.	23.96	65	53	23.87	53	53	100	E.	13	.84	....	Fog	...	Hidden	...	...	...	...	...	...	Foggy.
	10 39 p m.	23.97	64	53	23.89	53	53	100	E.	12	.72	....	Fog	...	Hidden	...	...	...	...	...	...	Foggy.
	12 0 p. m.	23.96	63	54	23.88	51	54	100	E.	12	.72	....	Fog	...	Hidden	...	...	...	...	...	...	Foggy.
Knoxville, Tenn	7 0 a. m.	29.33	77	72	29.192	71	67	80	E.	5	.12	...	0	0	Cirrus ..	1-4	0	...	...	...	...	Fair.
	7 7 a. m.	29.33	77	72	29.192	71	67	80	E.	5	.12	..	0	0	Cirrus ..	1-4	0	...	...	...	...	Fair.
	11 32 a. m.	29.34	81	83	29.192	82	71	56	S.	6	.18	94	0	0	Cumulus	1-4	0	...	...	...	...	Fair.
	2 0 p. m.	29.32	83	88	29.167	87	71	42	S. W.	5	.12	....	0	0	Cir. & cu	3-4	0	...	...	...	...	Fair.
	4 7 p. m	29.29	84	89	29.141	88	74	49	S. W.	8	.32	....	Nimbus...	1-4	Cumulus	3-4	S.	...	...	...	...	Cloudy.
	9 0 p. m.	29.31	81	76	29.164	75	72	85	0	0	0	...	0	0	0	0	...	...	...	...	...	Clear.
	10 32 p. m.	29.33	78	74	29.191	73	70	85	S. W.	2	.02	....	0	0	Cir.-cum	4-4	0	...	...	...	...	Cloudy.

Meteorological record for July 14, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 94	60	52	23. 86	52	52	100	S.E.	14	.98		Fog		Hidden							Foggy.
	2 0 a. m.	23. 94	59	51	23. 87	51	49	86	S.W.	16	1. 28		Light fog.		Cirrus	2-4	0					Fair.
	3 0 a. m.	23. 94	59	51	23. 87	51	50	93	S.W.	8	.32		Light fog.		Cirrus	2-4	S. W.					Fair.
	4 0 a. m.	23. 93	57	51	23. 86	51	49	86	S. W.	12	.72		0	0	Cirrus	2-4	S. W.					Fair.
	5 0 a. m.	23. 95	56	53	23. 88	53	50	80	S. W.	9	.40		Hazy		Cirrus	2-4	0					Fair.
	6 0 a. m.	23. 96	58	58	23. 89	58	52	64	S. W	8	.32		Hazy		Cirrus	2-4	0					Fair.
	7 14 a. m.	23. 97	58	60	23. 90	60	53	60	S. W.	6	.18		Hazy		Cirrus	1-4	0					Fair.
	8 0 a. m.	23. 97	59	62	23. 90	62	55	61	S. W.	3	.04		Hazy		Cirrus	1-4	0					Fair.
	9 0 a. m.	24. 00	62	61	23. 92	61	57	77	N. W.	2	.02		Hazy		Cumulus	2-4	N. W.					Fair.
	10 0 a. m.	23. 99	63	59	23. 91	59	56	82	N. W.	2	.02		Hazy		Cumulus	3-4	E.					Cloudy.
	11 0 a. m.	24. 00	62	60	23. 92	60	57	82	S.W.	1	.01		Hazy		Cumulus	3-4	0	10.23 a. m.	10 32 a. m.	.06		Cloudy.
	12 0 m	23. 99	62	60	23. 91	60	58	88	W.	4	.08		Hazy		Cumulus	3-4	N. W.					Cloudy.
	1 0 p. m.	23. 99	62	58	23. 91	58	56	82	0	0	0	207	Nimbus	1-4	Cumulus	3-4	0	12.32 p. m.		.02		Light rain.
	2 0 p. m.	23. 97	64	65	23. 89	65	60	73	S. W.	8	.32		Hazy		Cumulus	3-4	S. W.		1.30 p. m.	.01		Cloudy.
	3 0 p. m.	23. 97	68	60	23. 88	60	58	88	W.	3	.04		Hazy		Cumulus	3-4	S. W.					Cloudy.
	4 14 p. m.	23. 97	66	61	23. 88	61	60	94	S. W.	1	.01		Hazy		Cumulus	3-4	S. W.	3. 40 p. m.	4.14 p. m.	.05		Cloudy.
	5 0 p. m.	23. 96	66	61	23. 87	61	58	82	S. W.	2	.02		Hazy		Cumulus	3-4	S. W.					Cloudy.
	6 0 p. m	23. 96	66	62	23 87	62	57	72	N. W.	6	.18		Hazy		Cumulus	2-4	N. W.					Fair.
	7 0 p. m.	23. 95	61	57	23. 87	57	55	87	N. W.	8	.32		Hazy		Cumulus	2-4	N. W.					Fair.
	8 0 p. m.	23. 97	64	56	23. 89	56	55	94	N. W.	6	.18		Hazy		Cumulus	2-4	N. W.					Fair.
	9 0 p. m.	23. 99	70	56	23 89	56	55	94	N. W.	2	.02		Hazy		Cumulus	3-4	N. W.					Fair.
	10 0 p. m.	23. 97	68	56	23. 88	56	54	87	N. W.	1	.01		Hazy		Cirrus	1-4	N. W.					Fair.
	10 39 p. m.	23. 98	67	57	23. 89	57	53	75	N. W.	2	.02		0	0	Cirrus	1-4	0					Fair.
	12 0 p. m	23. 97	64	56	23. 88	56	53	81	W.	4	.08		0	0	Cirrus	2-4	0					Fair.
Knoxville, Tenn.	7 0 a. m	29. 39	77	72	29. 252	71	68	83	S. W.	5	.12		0	0	Cir. & cu	2-4	0					Fair.
	7 7 a. m.	29. 39	77	72	29. 252	71	68	83	S. W.	5	.12		0	0	Cir. & cu	2-4	0					Fair.
	11 32 a. m	29. 39	81	81	29. 242	80	70	58	S. W.	8	.32	103	0	0	Cumulus	3-4	0					Cloudy.
	2 0 p. m.	29. 35	82	85	29. 200	84	69	44	S. W.	6	.18		0	0	Cumulus	1-4	0					Fair.
	4 7 p. m.	29. 34	84	88	29. 184	87	70	40	S. W.	8	.32		0	0	Cumulus	1-4	0					Fair.
	9 0 p. m.	29. 33	82	77	29. 180	76	71	76	0	0	0		0	0	0	0	0					Clear.
	10 32 p. m.	29. 32	80	75	29. 175	74	70	81	S.	2	.02		Stratus	3-4	Hazy							Cloudy.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.95	65	56	23.86	56	54	87	N. W.	1	.01	....	Hazy	....	Cirrus...	1·4	N. W.	....	....	....	....	Fair.
	2 0 a. m.	23.95	65	55	23.86	55	53	87	N. W.	6	.18	....	0	0	Cirrus...	2·4	0	....	....	....	....	Fair.
	3 0 a. m.	23.93	64	55	23.85	55	54	93	N. W.	12	.72	....	Fog	...	0	0	0	....	....	....	....	Foggy.
	4 0 a. m.	23.93	62	54	23.85	54	54	100	N. W.	16	1.28	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	5 0 a. m.	23.93	63	52	23.85	52	52	100	N. W.	16	1.28	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	6 0 a. m.	23.93	60	53	23.85	53	53	100	N.	14	.98	....	Hazy	....	Cir., cum	2·4	0	....	....	....	....	Fair.
	7 14 a. m.	23.92	60	57	23.84	57	53	75	N. E.	23	2.64	....	Hazy	....	Cumulus	2·4	E.	....	....	....	....	Fair.
	8 0 a. m.	23.92	58	56	23.85	56	53	81	N. E.	22	2.42	....	Hazy	....	Cumulus	1·4	N. E.	....	....	....	....	Fair.
	9 0 a. m.	23.93	59	56	23.86	56	54	87	N. E.	15	1.12	....	Hazy	....	Cumulus	2·4	N. E.	....	....	....	....	Fair.
	10 0 a. m.	23.95	59	57	23.88	57	55	87	N. W.	11	.60	....	Hazy	....	Cumulus	3·4	N. E.	....	....	....	....	Cloudy.
	11 0 a. m.	23.94	59	58	23.87	58	55	82	N. W.	14	.98	....	Hazy	....	Cumulus	3·4	N. W.	....	....	....	....	Cloudy.
	12 0 m ..	23.94	59	57	23.87	57	57	100	N. W.	15	1.12	212	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	1 0 p. m.	23.92	68	62	23.83	62	58	77	N. W.	8	.32	....	Hazy	....	Cumulus	4·4	N. W.	....	....	....	....	Cloudy.
	2 0 p. m.	23.92	65	61	23.83	61	58	82	N. W.	7	.24	....	Hazy	....	Cumulus	4·4	N. W.	....	....	....	....	Cloudy.
	3 0 p. m.	23.90	64	61	23.82	61	58	82	N. W.	8	.32	....	Hazy	....	Cumulus	1·4	N. W.	....	....	....	....	Cloudy.
	4 14 p. m.	23.89	62	59	23.81	59	59	100	N. W.	4	.08	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	5 0 p. m.	23.87	60	54	23.79	54	54	100	N. W.	18	1.62	....	Nimbus...	4·4	Hidden	....	......	4.25 p. m.	....	.16	....	Heavy rain.
	6 0 p. m.	23.83	58	52	23.76	52	52	100	N. E.	28	3.92	....	Nimbus...	4·4	Hidden	....	......	....	....	.10	....	Light rain.
	7 0 p. m.	23.81	58	53	23.74	53	51	86	N. E.	24	2.88	....	Nimbus...	1·4	Cumulus	2·4	0	....	....	.04	....	Light rain.
	8 0 p. m.	23.83	59	54	23.76	54	52	87	N. E.	8	.32	....	0	0	Cumulus	2·4	0	....	7.15 p. m.	.01	....	Fair.
	9 0 p. m	23.83	57	54	23.76	54	52	87	N. E.	26	3.38	....	Light fog	....	Cumulus	2·4	0	....	....	....	....	Fair.
	10 0 p. m.	23.83	57	55	23.76	55	52	80	N. E.	16	1.28	....	Light fog	....	Cirrus ..	4·4	0	....	....	....	....	Fair.
	10 39 p. m.	23.84	57	55	23.77	55	52	80	N. E.	18	1.62	....	0	0	Cirrus...	1·4	0	....	....	....	....	Fair.
	12 0 p. m.	23.83	59	55	23.76	55	52	80	N. E.	12	.72	....	Light fog	....	Cirrus ..	2·4	0	....	....	....	....	Fair.
Knoxville, Tenn.	7 0 a. m.	29.33	79	73	29.187	72	70	87	0	0	0	....	Hazy	....	Cirrus...	1·4	0	....	....	....	....	Fair.
	7 7 a. m	29.33	79	73	29.187	72	70	87	0	0	0	....	Hazy	....	Cirrus ..	1·4	0	....	....	....	....	Fair.
	11 32 a. m.	29.34	84	85	29.184	84	72	53	S W.	3	.04	79	0	0	Cumulus	3·4	N. E.	....	....	....	....	Cloudy.
	2 0 p. m.	29.27	86	89	29.110	88	74	49	S. W.	5	.12	....	Hazy	....	Cir.-cum	2·4	0	....	....	....	....	Fair.
	4 7 p. m.	29.31	83	70	29.159	69	67	90	E.	11	.60	....	Nimbus...	4·4	Hidden	....	......	4.00 p. m.	5.30 a. m.	.32	....	Light rain.
	9 0 p. m.	29.25	74	70	29.122	69	67	90	N.	3	.04	...	Stratus ...	1·4	Hazy ...	....	......	....	....	....	....	Clearing.
	10 32 p. m.	29.24	75	69	29.109	68	66	90	0	0	0	....	Stratus ...	2·4	Hazy ...	....	......	....	....	....	....	Cloudy.

Meteorological record for July 14, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.94	60	52	23.86	52	52	100	S.E.	14	.98	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 a. m.	23.94	59	51	23.87	51	49	86	S.W.	16	1.28	....	Light fog	....	Cirrus	2-4	0	....	....	....	....	Fair.
	3 0 a. m.	23.94	59	51	23.87	51	50	93	S.W.	8	.32	....	Light fog	....	Cirrus	2-4	S. W.	....	....	....	....	Fair.
	4 0 a. m.	23.93	57	51	23.86	51	49	86	S. W.	12	.72	....	0	0	Cirrus	2-4	S. W.	....	....	....	....	Fair.
	5 0 a. m.	23.95	56	53	23.88	53	50	80	S. W.	9	.40	....	Hazy	....	Cirrus	2-4	0	....	....	....	....	Fair.
	6 0 a. m.	23.96	58	58	23.89	58	52	64	S. W	8	.32	....	Hazy	....	Cirrus	2-4	0	....	....	....	....	Fair.
	7 14 a. m.	23.97	58	60	23.90	60	53	60	S. W.	6	.18	....	Hazy	....	Cirrus	1-4	0	....	....	....	....	Fair.
	8 0 a. m.	23.97	59	62	23.90	62	55	61	S. W.	3	.04	....	Hazy	....	Cirrus	1-4	0	....	....	....	....	Fair.
	9 0 a. m.	24.00	62	61	23.92	61	57	77	N. W.	2	.02	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	10 0 a. m.	23.99	63	59	23.91	59	56	82	N. W.	2	.02	....	Hazy	....	Cumulus	3-4	E.	....	....	....	....	Cloudy.
	11 0 a. m.	24.00	62	60	23.92	60	57	82	S.W.	1	.01	....	Hazy	....	Cumulus	3-4	0	10.23 a. m.	10 32 a. m.	.06	....	Cloudy.
	12 0 m ..	23.99	62	60	23.91	60	58	88	W.	4	.08	...	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	1 0 p. m.	23.99	62	58	23.91	58	56	82	0	0	0	207	Nimbus	1-4	Cumulus	3-4	0	12.32 p. m.	....	.02	....	Light rain.
	2 0 p. m.	23.97	64	65	23.89	65	60	73	S. W.	8	.32	....	Hazy	....	Cumulus	3-4	S. W.	....	1.30 p. m.	.01	....	Cloudy.
	3 0 p. m.	23.97	68	60	23.88	60	58	88	W.	3	.04	....	Hazy	....	Cumulus	3-4	S. W.	....	....	....	....	Cloudy.
	4 14 p. m.	23.97	66	61	23.88	61	60	94	S. W.	1	.01	....	Hazy	....	Cumulus	3-4	S. W.	3. 40 p. m.	4.14 p. m.	.05	....	Cloudy.
	5 0 p. m.	23.96	66	61	23.87	61	58	82	S. W.	2	.02	....	Hazy	....	Cumulus	3-4	S. W.	....	....	....	....	Cloudy.
	6 0 p. m	23.96	66	62	23.87	62	57	72	N. W.	6	.18	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	7 0 p. m.	23.95	61	57	23.87	57	55	87	N. W.	8	.32	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	8 0 p. m.	23.97	64	56	23.89	56	55	94	N. W.	6	.18	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	9 0 p. m.	23.99	70	56	23.89	56	55	94	N. W.	2	.02	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Fair.
	10 0 p. m.	23.97	68	56	23.88	56	54	87	N. W.	1	.01	....	Hazy	....	Cirrus	1-4	N. W.	....	....	....	....	Fair.
	10 39 p. m.	23.98	67	57	23.89	57	53	75	N. W.	2	.02	...	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	12 0 p. m	23.97	64	56	23.88	56	53	81	W.	4	.08	....	0	0	Cirrus	2-4	0	....	....	....	....	Fair.
Knoxville, Tenn.	7 0 a. m	29.39	77	72	29.252	71	68	83	S. W.	5	.12	....	0	0	Cir. & cu	2-4	0	....	....	....	....	Fair.
	7 7 a. m.	29.39	77	72	29.252	71	68	83	S. W.	5	.12	...	0	0	Cir. & cu	2-4	0	....	....	....	....	Fair.
	11 32 a. m	29.39	81	81	29.242	80	70	58	S. W.	8	.32	103	0	0	Cumulus	3-4	0	....	....	....	....	Cloudy.
	2 0 p. m.	29.35	82	85	29.200	84	69	44	S. W.	6	.18	....	0	0	Cumulus	1-4	0	....	....	....	....	Fair.
	4 7 p. m.	29.34	84	88	29.184	87	70	40	S. W.	8	.32	....	0	0	Cumulus	1-4	0	....	....	....	....	Fair.
	9 0 p. m.	29.33	83	77	29.180	76	71	76	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	10 32 p. m.	29.32	80	75	29.175	74	70	81	S.	2	.02	....	Stratus	3-4	Hazy	....	....	....	....	....	....	Cloudy.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 95	65	56	23. 86	56	54	87	N. W.	1	. 01	....	Hazy	....	Cirrus...	1-4	N. W.	....	....	....	....	Fair.
	2 0 a. m.	23. 95	65	55	23. 86	55	53	87	N. W.	6	. 18	....	0	0	Cirrus...	2-4	0	....	....	....	....	Fair.
	3 0 a. m.	23. 93	64	55	23. 85	55	54	93	N. W.	12	. 72	....	Fog	....	0	0	0	....	....	....	....	Foggy.
	4 0 a. m.	23. 93	62	54	23. 85	54	54	100	N. W.	16	1. 28	....	Fog	....	Hidden .	....	......	....	....	....	....	Foggy.
	5 0 a. m.	23. 93	63	52	23. 85	52	52	100	N. W.	16	1. 28	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	6 0 a. m.	23. 93	60	53	23. 85	53	53	100	N.	14	. 98	....	Hazy	....	Cir., cum	2-4	0	....	....	....	....	Fair.
	7 14 a. m.	23. 92	60	57	23. 84	57	53	75	N. E.	23	2. 64	....	Hazy	....	Cumulus	2-4	E.	....	....	....	....	Fair.
	8 0 a. m.	23. 92	58	56	23. 85	56	53	81	N. E.	22	2. 42	....	Hazy	....	Cumulus	1-4	N. E.	....	....	....	....	Fair.
	9 0 a. m.	23. 93	59	56	23. 86	56	54	87	N. E.	15	1. 12	....	Hazy	....	Cumulus	2-4	N. E.	....	....	....	....	Fair.
	10 0 a. m.	23. 95	59	57	23. 88	57	55	87	N. W.	11	. 60	....	Hazy	....	Cumulus	3-4	N. E.	....	....	....	....	Cloudy.
	11 0 a. m.	23. 94	59	58	23. 87	58	55	82	N. W.	14	. 98	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	12 0 m ..	23. 94	59	57	23. 87	57	57	100	N. W.	15	1. 12	212	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	1 0 p. m.	23. 92	68	62	23. 83	62	58	77	N. W.	8	. 32	....	Hazy	....	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	2 0 p. m.	23. 92	65	61	23. 83	61	58	82	N. W.	7	. 24	....	Hazy	....	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	3 0 p. m.	23. 90	64	61	23. 82	61	58	82	N. W.	8	. 32	....	Hazy	....	Cumulus	1-4	N. W.	....	....	....	....	Cloudy.
	4 14 p. m.	23. 89	62	59	23. 81	59	59	100	N. W.	4	. 08	....	Fog	....	Hidden .	....	......	....	....	....	....	Foggy.
	5 0 p. m.	23. 87	60	54	23. 79	54	54	100	N. W.	18	1. 62	....	Nimbus...	4-4	Hidden .	....	......	4.25 p. m.	....	. 16	....	Heavy rain.
	6 0 p. m.	23. 83	58	52	23. 76	52	52	100	N. E.	28	3. 92	....	Nimbus...	4-4	Hidden	....	......	....	....	. 10	....	Light rain.
	7 0 p. m.	23. 81	58	53	23. 74	53	51	86	N. E.	24	2. 88	....	Nimbus...	1-4	Cumulus	2-4	0	....	....	. 04	....	Light rain.
	8 0 p. m.	23. 83	59	54	23. 76	54	52	87	N. E.	8	. 32	....	0	0	Cumulus	2-4	0	....	7.15 p. m.	. 01	....	Fair.
	9 0 p. m	23. 83	57	54	23. 76	54	52	87	N. E.	26	3. 38	....	Light fog .	....	Cumulus	2-4	0	....	....	....	....	Fair.
	10 0 p. m.	23 83	57	55	23. 76	55	52	80	N. E.	16	1. 28	....	Light fog .	....	Cirrus ..	4-4	0	....	....	....	....	Fair.
	10 39 p. m.	23. 84	57	55	23. 77	55	52	80	N. E.	18	1. 62	....	0	0	Cirrus...	1-4	0	....	....	....	....	Fair.
	12 0 p. m.	23. 83	59	55	23. 76	55	52	80	N. E.	12	. 72	....	Light fog .	....	Cirrus ..	2-4	0	....	....	....	....	Fair.
Knoxville, Tenn.	7 0 a. m.	29. 33	79	73	29. 187	72	70	87	0	0	0	....	Hazy	....	Cirrus...	1-4	0	....	....	....	....	Fair.
	7 7 a. m	29. 33	79	73	29. 187	72	70	87	0	0	0	....	Hazy	....	Cirrus ..	1-4	0	....	....	....	....	Fair.
	11 32 a. m.	29. 34	84	85	29. 184	84	72	53	S W.	3	. 04	79	0	0	Cumulus	3-4	N. E.	....	....	....	....	Cloudy.
	2 0 p. m.	29. 27	86	89	29. 110	88	74	49	S. W.	5	. 12	....	Hazy	....	Cir.-cum	2-4	0	....	....	....	....	Fair.
	4 7 p. m.	29. 31	83	70	29. 159	69	67	90	E.	11	. 60	....	Nimbus...	4-4	Hidden	....	......	4.00 p. m.	5.30 a. m.	. 32	....	Light rain.
	9 0 p. m.	29. 25	74	70	29. 122	69	67	90	N.	3	. 04	....	Stratus ...	1-4	Hazy ...	....	......	....	....	....	....	Clearing.
	10 32 p. m.	29. 24	75	69	29. 109	68	66	90	0	0	0	....	Stratus ...	2-4	Hazy ...	....	......	....	....	....	....	Cloudy.

Meteorological record for July 16, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.82	57	55	23.75	55	52	80	N. E.	16	1.28	....	Light fog	....	Cirrus	3-4	0	....	....	....	....	Cloudy.
	2 0 a. m.	23.82	56	54	23.75	54	52	87	N. E.	12	.72	....	Light fog	....	Cirrus	2-4	0	....	....	....	....	Fair.
	3 0 a. m.	23.82	56	54	23.75	54	53	93	N. E.	12	.72	....	Light fog	....	Cir.,cum	2-4	0	....	....	....	....	Fair.
	4 0 a. m.	23.83	57	53	23.76	53	52	93	N. E.	12	.72	....	Light fog	....	Cir.,cum	1-4	0	....	....	....	....	Fair.
	5 0 a. m.	23.84	57	53	23.77	53	52	93	N. E.	16	1.28	....	Light fog	....	Cumulus	1-4	0	....	....	....	....	Fair.
	6 0 a. m.	23.85	58	53	23.78	53	52	93	N. E.	16	1.28	....	Hazy	....	Cumulus	2-4	0	....	....	....	....	Fair.
	7 14 a. m.	23.86	60	55	23.78	55	55	100	N. E.	20	2.00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 a. m.	23.86	62	56	23.78	56	55	93	N. E.	19	1.80	....	Light fog	....	Cirrus	1-4	0	....	....	....	....	Foggy.
	9 0 a. m.	23.86	62	61	23.78	61	58	82	N. E.	11	.60	....	Hazy	....	Cir.,cum	2-4	N. E.	....	....	....	....	Fair.
	10 0 a. m.	23.85	63	62	23.77	62	59	83	N. E.	8	.32	....	Hazy	....	Cumulus	2-4	N. E.	....	....	....	....	Fair.
	11 0 a. m.	23.87	65	60	23.78	60	60	100	N. E.	6	.18	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 m ..	23.85	63	61	23.77	61	60	94	N. E.	2	.02	336	Light fog	....	Cumulus	3-4	N. E.	....	....	....	....	Cloudy.
	1 0 p. m.	23.86	65	65	23.77	65	61	78	N. W.	2	.02	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	2 0 p. m.	23.85	67	62	23.76	62	60	88	N. W.	4	.08	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	3 0 p. m.	23.84	68	65	23.75	65	61	78	N. W.	2	.02	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	4 14 p. m.	23.85	71	67	23.75	67	62	74	N. W.	2	.02	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	5 0 p. m.	23.84	72	65	23.74	65	60	73	N. W.	4	.08	....	Hazy	....	Cir.,cum	2-4	N. W.	....	....	....	....	Fair.
	6 0 p. m.	23.84	72	64	23.74	64	59	73	N. W.	2	.02	....	Hazy	....	Cirrus	2-4	0	....	....	....	....	Fair.
	7 0 p. m.	23.85	67	60	23.76	60	58	88	0	0	0	....	Hazy	....	Cirrus	2-4	N. E.	....	....	....	....	Fair.
	8 0 p. m.	23.86	72	58	23.76	58	57	94	N. W.	2	.02	....	Light fog	....	0	0	0	....	....	....	....	Foggy.
	9 0 p. m.	23.86	66	58	23.77	58	56	88	N. W.	4	.08	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	10 0 p. m.	23.86	65	57	23.77	57	56	94	N. W.	3	.04	....	Light fog	....	0	0	0	....	....	....	....	Fair.
	10 39 p. m.	23.86	64	57	23.78	57	56	94	N. W.	4	.08	....	Light fog	....	0	0	0	....	....	....	....	Fair.
	12 0 p. m.	23.85	62	56	23.77	56	55	93	N. W.	2	.02	....	Light fog	....	Cirrus	1-4	0	....	....	....	....	Fair.
Knoxville, Tenn.	7 0 a. m.	29.25	72	69	29.127	68	66	90	N. E.	8	.32	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	7 7 a. m.	29.25	72	69	29.127	68	66	90	N. E.	8	.32	....	Stratus	4-4	Hidden	....	....	12 40 a. m.	In night.	.06	....	Cloudy.
	11 32 a. m.	29.25	78	79	29.112	78	72	73	E.	6	.18	124	0	0	Cumulus	1-4	E.	....	....	....	....	Clearing.
	2 0 p. m.	29.19	82	84	29.041	83	74	62	N. W.	6	.18	....	Hazy	....	Cumulus	2-4	N. E.	....	....	....	....	Fair.
	4 7 p. m.	29.17	85	88	29.014	87	75	53	N.	4	.08	....	Hazy	....	Cumulus	1-4	N. E.	....	....	....	....	Fair.
	9 0 p. m.	29.17	83	80	29.018	79	75	84	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	10 32 p. m.	29.17	82	77	29.021	76	74	88	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.

Meteorological record for July 17, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'd.	Ended.			
Summit of Mount Mitchell, N. C,	1 0 a. m.	23.84	61	56	23.76	56	55	93	W.	4	.08	....	Light fog	....	Cirrus	1-4	0	....	....	....	....	Fair.
	2 0 a. m.	23.82	60	56	23.74	56	55	93	W.	6	.18	....	Light fog	....	Cirrus	2-4	0	....	....	....	....	Fair.
	3 0 a. m.	23.81	60	55	23.73	55	54	93	W.	8	.32	....	Light fog	....	Cirrus	2-4	0	....	....	....	....	Fair.
	4 0 a. m.	23.81	61	56	23.73	56	55	93	N. W.	8	.32	....	Light fog	....	Cirrus	2-4	0	....	....	....	....	Fair.
	5 0 a. m.	23.83	63	56	23.75	56	55	93	N. W.	8	.32	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	6 0 a. m.	23.83	65	58	23.75	58	57	94	N. W.	8	.32	....	Hazy	....	Cirrus	1-4	0	....	....	....	....	Fair.
	7 14 a. m.	23.83	63	61	23.75	61	58	82	N. W.	12	.72	....	Hazy	....	Cirrus	1-4	0	....	....	....	....	Fair.
	8 0 a. m.	23.84	63	61	23.76	61	58	82	N. W.	10	.50	....	Hazy	....	Cirrus	1-4	0	....	....	....	....	Fair.
	9 0 a. m.	23.84	64	62	23.76	62	60	88	N. W.	10	.50	....	Hazy	....	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	10 0 a. m.	23.86	66	64	23.77	64	58	67	N. W.	8	.32	....	Hazy	....	Cumulus	2-4	0	....	....	....	....	Fair.
	11 0 a. m.	23.86	66	62	23.77	62	58	77	N. W.	8	.32	....	Hazy	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	12 0 m ..	23.86	68	63	23.77	63	60	83	N. W.	4	.08	122	Hazy	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	1 0 p. m.	23.85	67	64	23.76	64	61	83	N. W.	2	.02	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	2 0 p. m.	23.84	66	65	23.75	65	62	84	N. W.	4	.08	....	Hazy	....	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	3 0 p. m.	23.84	66	65	23.75	65	61	78	N. W.	2	.02	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	4 14 p. m.	23.83	68	67	23.74	67	63	79	0	0	0	....	Fog	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	5 0 p. m.	23.83	65	64	23.74	64	61	83	W.	2	.02	...	Fog	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	6 0 p. m.	23.83	67	68	23.74	68	63	74	N. W.	4	.08	....	Fog	....	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	7 0 p. m.	23.85	67	64	23.76	64	60	78	0	0	0	...	Hazy	....	Cumulus	2-4	0	....	....	....	....	Fair.
	8 0 p. m.	23.83	65	60	23.74	60	59	94	S. W.	2	.02	....	Hazy	....	Cirrus	1-4	0	....	....	....	....	Fair.
	9 0 p. m.	23.84	67	58	23.75	59	57	94	S. W.	8	.32	....	Light fog	....	Cirrus	2-4	0	....	....	....	....	Fair.
	10 0 p. m.	23.83	66	58	23.74	58	57	94	S. W.	10	.50	....	Light fog	....	Cirrus	1-4	0	....	....	....	....	Fair.
	10 39 p. m.	23.82	63	58	23.74	58	57	94	S. W.	12	.72	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	12 0 p. m.	23.81	62	58	23.73	58	57	94	S. W.	16	1.28	...	Light fog	....	0	0	0	....	....	....	....	Fair.
Knoxville, Tenn.	7 0 a. m.	29.18	77	74	29.044	73	72	95	0	0	0	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 7 a. m.	29.18	77	74	29.044	73	72	95	0	0	0	...	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	11 32 a. m.	29.20	85	87	29.044	86	76	61	S. E.	3	.04	57	Hazy	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	2 0 p. m.	29.14	87	90	28.978	89	76	52	N. W.	6	.18	....	Hazy	....	Cir. & cum.	2-4	N. W.	....	....	....	....	Fair.
	4 7 p. m.	29.12	87	89	28.959	88	76	53	W.	4	.08	....	Hazy	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	9 0 p. m.	29.12	85	81	28.964	80	76	82	N. W.	3	.04	....	Hazy	....	Cirrus	1-4	0	....	....	....	....	Fair.
	10 32 p. m.	29.11	83	78	28.964	77	75	88	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.

Meteorological record for July 18, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from —)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.80	62	57	23.72	57	56	94	S. W.	16	1.28	....	Light fog	....	Cirrus	1-8	0	....	....	....	....	Fair.
	2 0 a. m.	23.78	62	57	23.70	57	56	94	S. W.	16	1.28	....	Light fog	....	Cirrus	1-4	0	....	....	....	....	Fair.
	3 0 a. m.	23.77	63	58	23.69	58	57	94	S. W.	20	2.00	....	Fog	....	Cirrus	2-4	0	....	....	....	....	Foggy.
	4 0 a. m.	23.78	63	57	23.70	57	57	100	S. W.	20	2.00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 a. m.	23.78	62	57	23.70	57	57	100	S. W.	16	1.28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 a. m.	23.76	62	58	23.68	58	58	100	W.	20	2.00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 14 a. m.	23.77	62	59	23.69	59	59	100	W.	16	1.28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 a. m.	23.78	61	59	23.70	59	59	100	W.	16	1.28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 a. m.	23.79	63	60	23.71	60	59	94	W.	16	1.28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 a. m.	23.79	65	62	23.70	62	60	88	W.	12	.72	....	Hazy	....	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	11 0 a. m.	23.79	66	65	23.70	65	62	84	N. W.	12	.72	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	12 m.	23.78	65	65	23.69	63	61	78	N. W.	12	.72	242	Hazy	....	Cumulus	3-4	N. W.	11.45 a. m.	11.55 a. m.	.02	....	Cloudy.
	1 0 p. m.	23.77	63	61	23.69	61	57	77	N. W.	12	.72	....	Hazy	....	Cumulus	4-4	N. W.	....	....	....	....	Threatening.
	2 0 p. m.	23.74	59	55	23.67	55	55	100	W.	18	1.62	....	Nimbus	4-4	Hidden	....	....	1.35 p. m.	....	.34	....	Heavy rain.
	3 0 p. m.	23.73	62	56	23.65	56	56	100	N. W.	18	1.62	....	Fog	....	Hidden	....	....	....	2.45 p. m.	.02	....	Foggy.
	4 14 p. m.	23.74	62	58	23.66	58	58	100	N. W.	22	2.42	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 p. m.	23.72	63	59	23.64	59	57	88	W.	18	1.62	....	Light fog	....	Cirrus	2-4	0	....	....	....	....	Foggy.
	6 0 p. m.	23.72	63	59	23.64	59	57	88	W.	18	1.62	....	Light fog	....	Cirrus	2-4	0	....	....	....	....	Foggy.
	7 0 p. m.	23.71	60	56	23.63	56	55	93	N. W.	20	2.00	....	Hazy	....	Cir., cum.	3-4	0	....	....	....	....	Cloudy.
	8 0 p. m.	23.73	60	55	23.65	55	54	93	N. W.	24	2.88	....	Fog	....	Cirrus	3-4	0	....	....	....	....	Cloudy.
	9 0 p. m.	23.75	60	57	23.67	57	56	94	N. W.	24	2.88	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 p. m.	23.75	62	56	23.67	56	56	100	W.	20	2.00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 39 p. m.	23.74	61	56	23.66	56	56	100	N. W.	16	1.28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 p. m.	23.75	60	54	23.67	54	54	100	N. W.	16	1.28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
Knoxville, Tenn.	7 0 a. m.	29.13	81	77	28.984	76	72	81	S. W.	8	.32	....	Hazy	....	Cumulus	4-4	S. W.	1.50 p. m.	2.20 p. m.	....	....	Cloudy.
	7 7 a. m.	29.13	81	77	28.984	76	72	81	S. W.	8	.32	....	Hazy	....	Cumulus	4-4	S. W.	....	....	.15	....	Cloudy.
	11 32 a. m.	29.12	86	84	28.961	83	74	64	S. W.	12	.72	147	Stratus	1-4	Cumulus	2-4	W.	....	....	....	....	Cloudy.
	2 0 p. m.	29.07	85	79	28.914	78	73	78	N.	6	.18	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	4 7 p. m.	29.05	82	77	28.902	76	72	81	E.	8	.32	....	Nimbus	2-4	Cumulus	4-4	0	....	....	....	....	Threatening.
	9 0 p. m.	29.11	78	70	28.972	69	67	92	W.	6	.18	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	10 32 p. m.	29.11	78	70	28.972	69	67	87	W.	6	.18	....	Stratus	2-4	Hazy	....	....	6.15 p. m.	7.30 p. m.	.08	....	Clearing.

Meteorological record for July 19, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.73	60	53	23.65	53	53	100	N. W.	12	.72		Fog		Hidden							Foggy.
	2 0 a. m.	23.71	60	52	23.63	52	52	100	N. W.	16	1.28		Light fog		Cirrus	2-4	0					Fair.
	3 0 a. m.	23.71	58	53	23.64	53	53	100	W.	18	1.62		Fog		Hidden							Foggy.
	4 0 a. m.	23.71	60	54	23.63	54	54	100	N. W.	17	1.44		Fog		Hidden							Foggy.
	5 0 a. m.	23.72	59	54	23.65	54	54	100	N. W.	18	1.62		Fog		Hidden							Foggy.
	6 0 a. m.	23.74	60	54	23.66	54	54	100	N. W.	16	1.28		Fog		Hidden			5.40 a. m.		.02		Light rain.
	7 14 a. m.	23.74	59	54	23.67	54	54	100	N. W.	16	1.28		Fog		Hidden				6.10 a. m.	.01		Foggy.
	8 0 a. m.	23.74	59	55	23.67	55	55	100	N. W.	16	1.28		Fog		Hidden							Foggy.
	9 0 a. m.	23.76	62	55	23.68	55	55	100	N. W.	8	.32		Fog		Hidden							Foggy.
	10 0 a. m.	23.78	62	56	23, 70	56	56	100	W.	12	.72		Fog		Hidden							Foggy.
	11 0 a. m.	23.80	60	59	23.72	59	57	88	W.	8	.32		Hazy		Cumulus	3-4	N. W.					Cloudy.
	12 0 m.	23.78	61	59	23.70	59	56	82	W.	8	.32	390	Hazy		Cir Cumulus	2-4 2-4	S. E. N. W.					Fair.
	1 0 p. m.	23.78	63	61	23.70	61	55	66	N. W.	8	.32		Hazy		Cir., cum	2-4	N. W.					Fair.
	2 0 p. m.	23.77	64	59	23.69	59	54	70	N. W.	6	.18		Hazy		Cir., cum	2-4	N. W.					Fair.
	3 0 p. m.	23.75	62	59	23.67	59	54	70	N. W.	8	.32		Hazy		Cir., cum	3-4	N. W.					Cloudy.
	4 14 p. m.	23.74	62	56	23.66	56	54	87	N. W.	8	.32		Hazy		Cumulus	4-4	N. W.					Cloudy.
	5 0 p. m.	23.74	62	53	23.66	53	52	93	N. W.	8	.32		Nimbus	4-4	Hidden			5.00 p. m.	5.05 p. m.	Bl'k		Light rain.
	6 0 p. m.	23.74	62	52	23.66	52	50	86	N. W.	16	1.28		Hazy		Cir., cum	4-4	0					Cloudy.
	7 0 p. m.	23.73	60	51	23.65	51	48	79	N. W.	18	1.62		Hazy		Cir., cum	2-4	0					Fair.
	8 0 p. m.	23.73	60	51	23.65	51	51	100	N. W.	16	1.28		Fog		Hidden							Foggy.
	9 0 p. m.	23.75	62	50	23.67	50	50	100	N. W.	12	.72		Fog		Hidden							Foggy.
	10 0 p. m.	23.77	62	50	23.69	50	50	100	N. W.	16	1.28		Fog		Hidden							Foggy.
	10 39 p. m.	23.76	63	49	23.68	49	49	100	N. W.	12	.72		Fog		Hidden							Foggy.
	12 0 p. m.	23.76	62	48	23.68	48	47	93	N. W.	12	.72		0	0	Cirrus	2-4	0					Fair.
Knoxville, Tenn.	7 0 a. m.	29.14	76	71	29.007	70	69	92	S. W.	3	.04		Stratus	4-4	Hidden							Cloudy.
	7 7 a. m.	29.14	76	71	29.007	70	69	92	S. W.	3	.04		Stratus	4-4	Hidden							Cloudy.
	11 32 a. m.	29.18	83	81	29.028	80	72	66	S.	12	.72	149	0	0	Cumulus	4-4	W.					Clearing.
	2 0 p. m.	29.13	80	79	28.986	78	72	73	E.	8	.32		Stratus	2-4	Cu. & cir	2-4	0					Cloudy.
	4 7 p. m.	29.13	77	77	28.994	76	71	76	S. W.	8	.32		Stratus	2-4	Cumulus	4-4	N. W.	3.30 p. m.	4.00 p. m.	.01		Cloudy.
	9 0 p. m.	29.17	76	73	29.047	72	65	67	N.	6	.18		0	0	0	0	0					Clear.
	10 32 p. m.	29.18	75	71	29.049	70	64	71	N.	4	.08		0	0	0	0	0					Clear.

Meteorological record for July 20, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction. (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23 75	60	47	23.67	47	46	92	N. W.	14	.98	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	2 0 a. m.	23.76	62	49	23.68	49	48	93	S. W.	16	1.28	....	Light fog.	...	Cirrus	2-4	0	....	....	....	....	Fair.
	3 0 a. m.	23.75	60	48	23.67	48	47	93	S. W.	14	.98	....	0	0	Cirrus	2-4	0	....	....	....	....	Fair.
	4 0 a. m.	23.74	59	49	23.67	49	47	85	S. W.	16	1.28	....	0	0	Cir., cum	2-4	S.W.	....	....	....	....	Cloudy.
	5 0 a. m.	23.73	56	49	23.66	49	47	85	S.W.	14	.98	....	Hazy	....	Cir., cum	3-4	S.W.	....	....	....	....	Cloudy.
	6 0 a. m.	23.74	57	50	23.67	50	48	86	W.	12	.72	....	Fog	....	Cir., cum	3-4	S.W.	....	....	....	....	Cloudy.
	7 14 a. m.	23.75	56	51	23.68	51	49	86	W.	8	.32	....	Hazy	...	Cir., cum	4-4	0	....	....	....	....	Cloudy.
	8 0 a. m.	23.75	56	52	23.69	52	49	79	N. W.	8	.32	....	Hazy	....	Cir., cum	4-4	0	....	....	....	....	Cloudy.
	9 0 a. m.	23.76	59	52	23.69	50	50	86	N. W.	4	.08	....	Fog	....	Cir., cum	3-4	N. W.	....	....	....	....	Cloudy.
	10 0 a. m.	23.76	57	54	23.69	54	52	87	S.W.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	11 0 a. m.	23.79	62	55	23.71	55	51	74	N. W.	8	.32	..	Hazy	....	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	12 0 m.	23.78	63	54	23.70	54	52	87	N. W.	4	.08	276	Light fog	....	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	1 0 p. m.	23.74	62	59	23.66	59	56	88	S.W.	4	.08	....	Fog	....	Cumulus	4-4	0	....	....	....	....	Cloudy.
	2 0 p. m.	23.74	66	55	23.65	55	53	87	S.W.	4	.08	....	Fog	....	Cumulus	4-4	0	....	....	....	....	Cloudy.
	3 0 p. m.	23 74	64	54	23.66	54	51.5	83	W.	4	.08	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 14 p. m.	23.72	59	53	23.65	53	52	93	W.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 p. m.	23.71	60	55	23.64	55	52	80	N. W.	6	.18	....	Hazy	....	Cumulus	4-4	0	....	....	....	....	Cloudy.
	6 0 p. m.	23.72	65	55	23.63	55	52	80	W.	4	.08	...	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 0 p. m.	23.73	65	52	23.64	52	50.5	89	W.	4	.08	....	Fog	....	Cumulus	2-4	0	....	....	....	....	Cloudy.
	8 0 p. m.	23.74	66	51	23.65	51	50	93	0	0	0	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 p. m	23.75	67	51	23.66	51	50	93	0	0	0	....	Fog	....	Hidden	...	—	....	....	....	....	Foggy.
	10 0 p. m.	23.75	69	49	23.66	49	48.5	96	S.W.	4	.08	....	Fog	....	Hidden	....	—	....	....	....	....	Foggy.
	10 39 p. m.	23.75	68	50	23.66	50	49.5	96	W.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 p. m.	23.73	65	50	23.64	50	49	93	W.	8	.32	....	Light fog	....	Cumulus	2-4	W.	....	....	....	....	Fair.
Knoxville, Tenn.	7 0 a. m.	29.18	67	66	29.070	65	61	78	N.	8	.32	....	0	0	Cirrus	3-4	W.	....	....	....	....	Cloudy.
	7 7 a. m.	29.18	67	66	29.070	65	61	78	N.	8	.32	....	0	0	Cirrus	3-4	W.	....	....	....	....	Cloudy.
	11 32 a. m.	29.18	76	76	29.047	75	66	57	E.	6	.18	130	Stratus	1-4	Cirrus	2-4	0	....	....	....	....	Cloudy.
	2 0 p. m.	29.15	78	78	29.012	76	64	49	N.	13	.84	....	Stratus	3-4	0	0	0	....	....	....	....	Cloudy.
	4 7 p. m.	29.12	77	77	28.984	76	64	49	N.	16	1.28	....	0	0	Cu. & cir	3-4	S.W.	....	....	....	....	Cloudy.
	9 0 p. m.	29.16	74	69	29.032	68	64	79	N.	4	.08	....	Stratus	1-4	0	0	0	....	....	....	....	Fair.
	10 32 p. m.	29.17	75	67	29.040	66	62	76	N.	5	.12	....	Stratus	1-4	0	0	0	....	....	....	....	Fair.

Meteorological record for July 31, 1878.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 73	64	49	23. 65	49	49	100	W.	8	. 32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 a. m.	23. 73	66	48	23. 64	48	47. 5	96	W.	4	. 08	....	Fog	....	Hidden	....	....	....	....	....	....	Cloudy.
	3 0 a. m.	23. 72	63	46	23. 64	46	45	92	W.	4	. 08	....	Light fog	....	Cumulus	2-4	W.	....	....	....	....	Foggy.
	4 0 a. m.	23. 70	61	47	23. 62	47	46	92	W.	4	. 08	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 a. m.	23. 71	62	47	23. 63	47	46	92	W.	4	. 08	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 a. m.	23. 74	66	48	23. 65	48	48	100	N. W.	8	. 32	....	Light fog	....	Cumulus	1-4	0	....	....	....	....	Fair.
	7 14 a. m.	23. 74	62	48	23. 66	48	48	100	N. W.	4	. 08	....	Fog	....	Cumulus	1-4	N. W.	....	....	....	....	Foggy.
	8 0 a. m.	23. 75	64	51	23. 67	51	50	93	N. W.	4	. 08	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	9 0 a. m.	23. 76	64	49	23. 68	49	47	85	N. W.	3	. 04	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	10 0 a. m.	23. 77	63	53	23. 69	53	50	80	N. W.	4	. 08	....	Hazy	....	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	11 0 a. m.	23. 78	63	55	23. 70	55	52	80	N. W.	4	. 08	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	12 0 m.	23. 78	65	54	23. 69	54	50	74	N. W.	2	. 02	102	Hazy	....	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	1 0 p. m.	23. 78	68	54	23. 69	54	50	74	N. W.	5	. 12	....	Hazy	....	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	2 0 p. m.	23. 78	70	59	23. 68	59	54	70	S. W.	4	. 08	....	Hazy	....	Cumulus	3-4	S. E.	....	....	....	....	Cloudy.
	3 0 p. m.	23. 78	67	57	23. 69	57	52	69	N. W.	4	. 08	....	Hazy	....	Cumulus	3-4	E.	....	....	....	....	Cloudy.
	4 14 p. m.	23. 77	63	58	23. 69	58	53	70	N. W.	4	. 08	....	Hazy	....	Cir., cum	2-4	N.	....	....	....	....	Fair.
	5 0 p. m.	23. 77	61	55	23. 69	55	51	74	N. W.	4	. 08	....	Hazy	....	Cir., cum	2-4	0	....	....	....	....	Fair.
	6 0 p. m.	23. 78	62	51	23. 70	51	47	72	N. W.	4	. 08	....	Hazy	....	Cir., cum	2-4	N. W.	....	....	....	....	Fair.
	7 0 p. m.	23. 80	67	51	23. 71	51	47	72	N. W.	4	. 08	....	Hazy	....	Cir., cum	2-4	W.	....	....	....	....	Fair.
	8 0 p. m.	23. 84	64	48	23. 74	48	45	78	N. W.	2	. 02	....	Hazy	....	Cir., cum	2-4	0	....	....	....	....	Fair.
	9 0 p. m.	23. 83	63	47	23. 75	47	45	85	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	10 0 p. m.	23. 85	63	47	23. 77	47	45	85	W.	4	. 08	....	0	0	Cumulus	1-4	0	....	....	....	....	Fair.
	10 39 p. m.	23. 85	64	47	23. 77	47	45	85	N. W.	4	. 08	....	0	0	Cumulus	1-4	0	....	....	....	....	Fair.
	12 0 p. m.	23. 85	65	46	23. 76	46	44	84	S. E.	4	. 08	....	0	0	Cumulus	1-4	0	....	....	....	....	Fair.
Knoxville, Tenn.	7 0 a. m.	29. 20	71	65	29. 080	64	60	78	N. E.	4	. 08	....	0	0	0	0	0	....	....	....	....	Clear.
	7 7 a. m.	29. 20	71	65	29. 080	64	60	78	N. E.	4	. 08	....	0	0	0	0	0	....	....	....	....	Clear.
	11 32 a. m.	29. 23	76	76	29. 097	75	61	39	E.	5	. 12	136	0	0	Cumulus	1-4	N. E.	....	....	....	....	Fair.
	2 0 p. m.	29. 18	77	77	29. 043	76	61	38	N. E.	12	. 72	....	0	0	Cir. & cu	2-4	N.	....	....	....	....	Fair.
	4 7 p. m.	29. 18	78	80	29. 042	79	61	30	N.	8	. 32	....	0	0	Cumulus	1-4	N.	....	....	....	....	Fair.
	9 0 p. m.	29. 24	75	69	29. 109	68	63	73	N. E.	3	. 04	....	0	0	0	0	0	....	....	....	....	Clear.
	10 32 p. m.	29. 25	72	67	29. 126	66	62	79	N. E.	4	. 08	....	0	0	0	0	0	....	....	....	....	Clear.

Meteorological record for July 22, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM. Attached.	THERM. Exposed.	Corrected barometer.	HYGROM. Dry bulb.	HYGROM. Wet bulb.	Relative humidity.	WIND. Direction.	WIND. Velocity, per hour.	WIND. Pressure per sq. ft.	WIND. Daily velocity.	LOWER CLOUDS. Kind.	LOWER CLOUDS. Amount.	UPPER CLOUDS. Kind.	UPPER CLOUDS. Amount.	UPPER CLOUDS. Direction, (moving from—)	RAIN OR SNOW. Commen'd.	RAIN OR SNOW. Ended.	Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.85	64	46	23.77	46	44	84	S. E.	5	.12	....	Hazy......	....	Cumulus	1-4	0	....	....	....	....	Fair.
	2 0 a. m.	23.85	63	46	23.77	46	44	84	S. E.	5	.12	....	0	0	Cumulus	3-4	0	....	....	....	....	Cloudy.
	3 0 a. m.	23.85	61	46	23.77	46	44	84	S.W.	4	.08	....	0	0	Cumulus	2-4	0	....	....	....	....	Fair.
	4 0 a. m.	23.86	61	46	23.78	46	45	92	S.W.	4	.08	...	Light fog..	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	5 0 a. m.	23.87	61	46	23.79	46	45	92	S.	4	.08	....	Hazy......	....	Cirrus...	1-4	0	....	....	....	....	Fair.
	6 0 a. m.	23.89	61	47	23.81	47	46	92	S. E.	4	.08	....	Hazy......	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	7 14 a. m.	23.90	62	51	23.82	51	48	79	S. E.	4	.08	....	Hazy......	....	Cir.-cum.	3-4	0	....	....	....	....	Cloudy.
	8 0 a. m.	23.91	62	56	23.83	56	52	75	S. E.	6	.18	....	Hazy......	....	Cirrus...	2-4	0	....	....	....	....	Fair.
	9 0 a. m.	23.93	66	60	23.83	60	54	65	S. E.	4	.08	....	Hazy......	....	Cumulus	2-4	S. E.	....	....	....	....	Fair.
	10 0 a. m.	23.94	67	56	23.85	56	51	69	S. E.	4	.08	....	Hazy......	....	Cumulus	4-4	E.	....	....	....	....	Cloudy.
	11 0 a. m.	23.94	63	54	23.86	54	51	80	N. E.	4	.08	....	Hazy......	....	Cumulus	4-4	E.	....	....	....	....	Cloudy.
	12 0 m..	23.94	63	60	23.86	60	56	76	S.W.	2	.02	103	Fog	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	1 0 p. m.	23.94	63	55	23.86	55	53	87	E.	4	.08	....	Fog	....	Hidden..	....	....	....	....	....	....	Foggy.
	2 0 p. m.	23.94	65	60	23.85	60	55	71	S.	8	.32	....	Hazy......	....	Cumulus	3-4	S. E.	....	....	....	....	Cloudy.
	3 0 p. m.	23.94	66	58	23.83	58	54	76	E.	8	.32	....	Hazy......	....	Cumulus	4-4	E.	....	....	....	....	Cloudy.
	4 14 p. m.	23.94	68	60	23.85	60	56	76	S. E.	4	.08	....	Hazy......	....	Cumulus	3-4	E.	....	....	....	....	Cloudy.
	5 0 p. m.	23.93	66	58	23.84	58	55	82	S.	4	.08	....	Hazy......	....	Cumulus	3-4	E.	....	....	....	....	Cloudy.
	6 0 p. m.	23.93	64	56	23,84	56	53	81	E.	3	.04	....	Light fog..	....	Cumulus	1-4	E.	....	....	....	....	Foggy.
	7 0 p. m	23.94	63	53	23.86	53	52	93	S. E.	4	.08	....	Fog	....	Cumulus	1-4	0	....	....	....	....	Foggy.
	8 0 p. m.	23.97	70	51	23.87	51	49	86	S. E.	4	.08	....	0	0	Cumulus	4-4	0	....	....	....	....	Cloudy.
	9 0 p. m.	23.98	71	51	23.88	51	51	100	S.	4	.08	....	Fog	....	Hidden..	....	....	....	....	....	....	Foggy.
	10 0 p. m.	24.00	72	50	23.90	50	50	100	S.	7	.24	....	Light fog..	....	Cumulus	1-4	0	....	....	....	....	Fair.
	10 39 p. m.	23.99	68	50	23.90	50	50	100	S.	7	.24	....	Light fog..	....	Cumulus	1-4	0	....	....	....	....	Fair.
	12 0 p. m.	23.98	68	50	23.89	50	50	100	S.W.	7	.24	....	Light fog..	....	Cumulus	1-4	0	....	....	....	....	Fair.
Knoxville, Tenn.	7 0 a. m.	29.34	66	64	29.231	63	60	83	N. E.	6	.18	....	Stratus....	4-4	Hidden..	....	....	....	....	....	....	Cloudy.
	7 7 a. m.	29.34	66	64	29.231	63	60	83	N. E.	6	.18	....	Stratus....	4-4	Hidden..	....	....	....	....	....	....	Cloudy.
	11 32 a. m.	29.35	77	77	29.112	76	66	54	E.	8	.32	136	0	0	Cirrus...	3-4	W.	....	....	....	....	Fair.
	2 0 p. m.	29.33	78	83	29.190	82	69	40	E.	4	.08	....	0	0	Cir. & cu.	4-4	0	....	....	....	....	Cloudy.
	4 7 p. m.	29.32	80	83	29.174	82	67	42	N. E.	7	.24	....	0	0	Cirrus...	4-4	0	....	....	....	....	Cloudy.
	9 0 p. m.	29.35	77	75	29.212	74	70	81	0	0	0	....	0	0	Cirrus...	4-4	0	....	....	....	....	Cloudy.
	10 32 p. m.	29.35	76	73	29.216	72	69	85	E.	1	.01	....	Stratus....	1-4	Cirrus...	3-4	0	....	....	....	....	Cloudy.

Meteorological record for July 23, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 98	66	50	23. 89	50	49	93	S.	8	. 32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 a. m.	23. 98	64	49	23. 90	49	48	93	S.	8	. 32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 a. m.	23. 98	69	49	23. 88	49	49	93	S. W.	4	. 08	....	0	0	Cumulus	4-4	0	....	....	....	....	Cloudy.
	4 0 a. m.	23. 98	69	49	23. 88	49	45	71	S.	3	. 04	....	0	0	Cumulus	1-4	0	....	....	....	....	Fair.
	5 0 a. m.	23. 97	65	51	23. 88	51	45	59	S. W.	5	. 12	....	Light fog	....	Cirrus	1-4	0	....	....	....	....	Fair.
	6 0 a. m.	23. 98	64	52	23. 90	52	46	60	W.	2	. 02	....	Hazy	....	Cir., cum	2-4	0	....	....	....	....	Fair.
	7 14 a. m.	23. 99	65	53	23. 90	53	50	80	W.	4	. 08	....	Hazy	....	Cir., cum	3-4	0	....	....	....	....	Cloudy.
	8 0 a. m.	24. 00	66	65	23. 91	55	51	80	N. W.	4	. 08	....	Hazy	....	Cir., cum	2-4	0	....	....	....	....	Fair.
	9 0 a. m.	24. 01	66	56	23. 92	56	55	93	N.	4	. 08	....	Hazy	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	10 0 a. m.	24. 04	70	59	23. 94	59	53	65	0	0	0	....	Hazy	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	11 0 a. m.	24. 04	69	59	23. 94	59	53	65	N. W.	4	. 08	....	Hazy	....	Cumulus	4-4	0	....	....	....	....	Cloudy.
	12 0 m.	24. 03	65	60	23. 94	60	53	60	0	0	0	106	Hazy	....	Cumulus	4-4	0	....	....	....	....	Cloudy.
	1 0 p. m.	24. 01	65	60	23. 92	60	55	71	0	0	0	....	Hazy	....	Cumulus	4-4	0	....	....	....	....	Cloudy.
	2 0 p. m.	24. 01	67	64	23. 92	64	57	62	W.	2	. 02	....	Hazy	....	Cumulus	4-4	0	....	....	—	....	Cloudy.
	3 0 p. m.	24. 00	69	66	23. 90	66	57	54	N. W.	2	. 02	....	Hazy	....	Cumulus	2-4	W.	....	....	....	....	Fair.
	4 14 p. m.	24. 00	72	65	23. 90	65	55	49	W.	4	. 08	....	Hazy	....	Cumulus	2-4	0	....	....	....	....	Fair.
	5 0 p. m.	23. 99	70	65	23. 89	65	56	53	W.	4	. 08	....	Hazy	....	Cumulus	2-4	0	....	....	....	....	Fair.
	6 0 p. m.	23. 98	67	65	23. 89	65	56	53	0	0	0	....	Hazy	....	Cumulus	2-4	0	....	....	....	....	Fair.
	7 0 p. m.	23. 97	65	58	23. 88	58	54	78	N. W.	5	. 12	....	Hazy	....	Cirrus	1-4	0	....	....	....	....	Fair.
	8 0 p. m.	23. 98	64	54	23. 90	54	52	87	N. W.	4	. 08	....	Hazy	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	9 0 p. m.	23. 98	70	53	23. 88	53	51	86	N. W.	6	. 18	....	0	0	Cumulus	1-4	0	....	....	....	....	Fair.
	10 0 p. m.	23. 98	62	52	23. 90	52	51	93	N. W.	5	. 12	....	0	0	Cumulus	1-4	0	....	....	....	....	Fair.
	11. 39 p. m.	23. 98	63	52	23. 90	52	51	93	N. W.	4	. 08	....	0	0	0	0	0	....	....	....	....	Clear.
	12 0 p. m.	23. 97	71	52	23. 87	52	51	93	N. W.	4	. 08	....	0	0	0	0	0	....	....	....	....	Clear.
Knoxville, Tenn.	7 0 a. m.	29. 41	72	69	29. 285	68	66	90	N. E.	6	. 18	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	7. 7 a. m.	29. 41	72	69	29. 285	68	66	90	E.	4	. 08	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	11. 32 a. m.	29. 44	80	82	29. 294	81	71	57	E.	4	. 08	71	0	0	Cumulus	4-4	E.	....	....	....	....	Cloudy.
	2 0 p. m.	29. 37	81	85	29. 222	84	68	40	E.	6	. 18	....	0	0	Cir. & cu	2-4	0	....	....	....	....	Fair.
	4. 7 p. m.	29. 36	82	87	29. 210	86	71	44	E.	6	. 18	....	0	0	Cu. & cir	3-4	S. E.	....	....	....	....	Cloudy.
	9 0 p. m.	29. 35	79	75	29. 208	74	70	81	S. W.	4	. 08	....	Stratus	1-4	0	0	0	....	....	....	....	Fair.
	10. 32 p. m.	29. 35	78	74	29. 211	73	69	81	S. W.	3	. 04	....	0	0	0	0	0	....	....	....	....	Clear.

Meteorological record for July 24, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 97	71	52	23. 87	52	51	93	N. W.	4	.08	....	0	0	0	0	0	....	....	....	....	Clear.
	2 0 a. m.	23. 96	70	51	23. 86	51	51	100	N. W.	4	.08	....	0	0	0	0	0	....	....	....	....	Clear.
	3 0 a. m.	23. 95	71	51	23. 85	51	51	100	N. W.	4	.08	....	0	0	0	0	0	....	....	....	....	Clear.
	4 0 a. m.	23. 96	71	51	23. 86	51	51	100	N. W.	4	.08	....	0	0	Cumulus	1-4	0	....	....	....	....	Fair.
	5 0 a. m.	23. 95	69	51	23. 85	51	50	93	N. W.	5	.12	....	Light fog	....	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	6 0 a. m.	23. 94	64	52	23. 86	52	52	100	N. W.	5	.12	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 14 a. m.	23. 94	66	55	23. 85	55	54	93	N. W.	4	.08	....	Light fog	....	Cumulus	1-4	N. W.	....	....	....	....	Foggy.
	8 0 a. m.	23. 94	66	53	23. 85	53	51	86	N. W.	7	.24	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	9 0 a. m.	23. 94	66	58	23. 85	58	54	76	N.	6	.18	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	10 0 a. m.	23. 94	66	57	23. 85	57	54	81	N.	4	.08	....	Hazy	....	Cumulus	4-4	0	....	....	....	....	Cloudy.
	11 0 a. m.	23. 93	66	60	23. 84	60	55	71	E.	4	.08	....	Hazy	....	Cumulus	4-4	0	....	....	....	....	Cloudy.
	12 0 m.	23. 93	65	60	23. 84	60	57	82	S. W.	2	.02	99	Hazy	....	Cumulus	4-4	0	....	....	....	....	Cloudy.
	1 0 p. m.	23. 92	65	60	23. 83	60	56	76	0	0	0	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 p. m.	23. 91	67	62	23. 82	62	58	77	0	0	0	....	Hazy	....	Cumulus	4-4	0	....	....	....	....	Cloudy.
	3 0 p. m.	23. 91	66	63	23. 81	63	59	72	0	0	0	....	Hazy	....	Cumulus	4-4	0	....	....	....	....	Cloudy.
	4 14 p. m.	23. 90	70	59	23. 80	59	56	71	S. E.	4	.08	....	Hazy	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	5 0 p. m.	23. 89	68	61	23. 80	61	58	82	S. E.	4	.08	....	Hazy	....	Cumulus	3-4	S. E.	....	....	....	....	Cloudy.
	6 0 p. m.	23. 87	67	63	23. 78	63	58	72	S. W.	3	.04	....	Hazy	....	Cumulus	3-4	N.	....	....	....	....	Cloudy.
	7 0 p. m.	23. 86	65	57	23. 78	57	55	87	S.	2	.02	....	Hazy	....	Cumulus	3-4	N.	....	....	....	....	Cloudy.
	8 0 p. m.	23. 85	64	55	23. 77	55	54	93	S.	2	.02	....	Hazy	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	9 0 p. m.	23. 86	67	55	23. 77	55	53	87	0	0	0	....	Hazy	....	Cumulus	2-4	0	....	....	....	....	Fair.
	10 0 p. m.	23. 87	69	55	23. 77	55	53	87	0	0	0	....	Hazy	....	Cumulus	1-4	0	....	....	....	....	Fair.
	10 39 p. m.	23. 87	69	55	23. 77	55	53	87	N. W.	2	.02	....	0	0	0	0	0	....	....	....	....	Clear.
	12 0 p. m.	23. 85	65	53	23. 76	53	51	86	N.	4	.08	....	0	0	0	0	0	....	....	....	....	Clear.
Knoxville, Tenn.	7 0 a. m.	29. 35	76	70	29. 215	69	68	95	S. W.	3	.04	....	Fog	....	0	0	0	....	....	....	....	Foggy.
	7 7 a. m.	29. 35	76	70	29. 215	69	68	95	S. W.	3	.04	....	Fog	....	0	0	0	....	....	....	....	Foggy.
	11 32 a. m.	29. 33	82	83	29. 179	82	70	52	E.	8	.32	94	0	0	Cumulus	2-4	E.	....	....	....	....	Fair.
	2 0 p. m.	29. 23	83	87	29. 078	86	70	42	E.	6	.18	....	0	0	Cirrus	2-4	0	....	....	....	....	Fair.
	4 7 p. m.	29. 22	85	88	29. 063	87	70	40	E.	3	.04	....	0	0	Cirrus	3-4	0	....	....	....	....	Cloudy.
	9 0 p. m.	29. 22	79	76	29. 079	75	69	72	S. W.	8	.32	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	10 32 p. m.	29. 22	79	75	29. 079	74	69	76	S. W.	4	.08	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.

Meteorological Record for July 23, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 84	64	53	23. 76	53	51	86	N. W.	4	. 08	....	0	0	0	0	0	....	....	....	....	Clear.
	2 0 a. m.	23. 82	65	52	23. 73	52	51	93	N.	4	. 08	....	0	0	Cumulus	2-4	0	....	....	....	....	Fair.
	3 0 a. m.	23. 81	63	51	23. 73	51	50	93	N.	4	. 08	....	0	0	Cumulus	2-4	0	....	....	....	....	Fair.
	4 0 a. m.	23. 80	60	50	23. 72	50	50	100	S. W.	8	. 32	....	Light fog	....	Cir., cum	2-4	0	....	....	....	....	Fair.
	5 0 a. m.	23. 80	58	50	23. 73	50	49	93	S. W.	8	. 32	....	Hazy	....	Cir. cum	1-4	0	....	....	....	....	Fair.
	6 0 a. m.	23. 80	58	50	23. 73	50	50	100	S. W	8	. 32	....	Light fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 14 a. m.	23. 80	59	52	23. 73	52	51	93	S. W.	6	. 18	....	Light fog	....	Cumulus	1-4	0	....	....	....	....	Fair.
	8 0 a. m.	23. 81	59	55	23. 74	55	53	87	S. W.	8	. 32	....	Hazy	....	Cumulus	1-4	N.	....	....	....	....	Fair.
	9 0 a. m.	23. 82	61	59	23. 74	59	57	88	S. W.	6	. 18	....	Hazy	....	Cumulus	1-4	N.	....	....	....	....	Fair.
	10 0 a. m.	23. 82	62	62	23. 74	62	57	72	S. W.	8	. 32	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	11 0 a. m.	23. 85	63	64	23. 76	64	57	62	S. W.	8	. 32	....	Hazy	....	Cumulus	3-4	E.	....	....	....	....	Cloudy.
	12 0 m ..	23. 85	66	61	23. 76	61	58	82	W.	4	. 08	101	Fog	....	Cumulus	4-4	0	....	....	....	....	Cloudy.
	1 0 p. m.	23. 84	65	58	23. 75	58	56	88	S. W.	3	. 04	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 p. m.	23. 83	65	58	23. 74	58	56	88	S. W.	2	. 02	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 p. m.	23. 81	67	56	23. 72	56	56	100	S. W.	6	. 18	....	Nimbus	4-4	Hidden	....	....	2.25 p. m.	....	. 11	....	Light rain.
	4 14 p. m.	23. 80	66	57	23. 71	57	56	94	S.	8	. 32	....	Light fog	....	Cumulus	1-4	0	....	4.01 p. m.	. 06	....	Foggy.
	5 0 p. m.	23. 80	66	57	23, 71	57	56	94	S.	6	. 18	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 p. m.	23. 79	61	55	23. 71	55	55	100	S.	8	. 32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 0 p. m.	23. 79	61	55	23. 71	55	54	93	S. W.	8	. 32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 p. m.	23. 80	65	54	23. 71	54	53	93	S. W.	16	1. 28	....	Fog	....	Hidden	....	....	7.10 p. m.	7.35 p. m.	. 02	....	Foggy.
	9 0 p. m.	23. 81	63	55	23. 73	55	55	100	S. W.	16	1. 28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 p. m.	23. 82	64	55	23. 74	55	55	100	S. W.	18	1. 62	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 39 p. m.	23. 82	63	55	23. 74	53	55	100	S. W.	20	2. 00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 p. m.	23. 82	63	54	23. 74	54	54	100	S. W.	20	2. 00	....	Nimbus	4.4	Hidden	....	....	10.50 p. m.	....	. 05	....	Light rain.
Knoxville, Tenn.	7 0 a. m.	29. 20	77	72	29. 064	71	69	90	S. W.	2	. 02	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	7 7 a. m	29. 20	77	72	29. 064	.71	69	90	S. W.	2	. 02	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	11 32 a. m.	29. 16	81	81	29. 014	80	71	61	S.	4	. 08	107	0	0	Cu. & cir	2-4	0	....	....	....	....	Fair.
	2 0 p. m.	29. 13	81	82	28. 984	81	72	62	S.	12	. 72	....	Stratus	1-4	Cirrus	2-4	0	....	....	....	....	Cloudy.
	4 7 p. m.	29. 13	83	85	28. 979	84	72	53	S. W.	12	. 72	....	0	0	Cumulus	2-4	S. W.	1.45 p. m.	2.00 p. m.	. 01	....	Cloudy.
	9 0 p. m.	29. 14	79	76	28. 999	75	70	76	S.	6	. 18	....	Stratus	2-4	Hazy	....	....	....	....	....	....	Cloudy.
	10 32 p. m.	29. 15	80	75	29. 007	74	71	85	0	0	0	....	Stratus	2-4	Hazy	....	....	....	....	....	....	Cloudy.

Meteorological record for July 26, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM. Attached.	THERM. Exposed.	Corrected barometer.	HYGROM. Dry bulb.	HYGROM. Wet bulb.	Relative humidity.	WIND. Direction.	WIND. Velocity per hour.	WIND. Pressure per sq. ft.	WIND. Daily velocity.	LOWER CLOUDS. Kind.	LOWER CLOUDS. Amount.	UPPER CLOUDS. Kind.	UPPER CLOUDS. Amount.	UPPER CLOUDS. Direction, (moving from—)	RAIN OR SNOW. Comm'd.	RAIN OR SNOW. Ended.	Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 81	64	55	23. 73	55	55	100	S. W.	16	1. 28	....	Fog	....	Hidden	....	....	....	12. 18 a. m.	. 01	....	Foggy.
	2 0 a. m.	23. 80	64	54	23. 72	54	54	100	S. W.	16	1. 28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 a. m.	23. 80	62	53	23. 72	53	53	100	S. W.	18	1. 62	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 0 a. m.	23. 80	61	54	23. 72	54	54	100	S. W.	16	1. 28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 a. m.	23. 82	62	53	23. 74	53	53	100	S. W.	12	. 72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 a. m.	23. 83	65	54	23. 74	54	54	100	S. W.	15	1. 12	....	Nimbus	4-4	Hidden	....	....	5. 50 a. m.	....	. 06	....	Light rain.
	7 14 a. m.	23. 83	60	58	23. 75	58	57	94	S.	14	. 98	....	Light fog	....	Cumulus	2-4	0	....	6. 32 a. m.	. 05	....	Fair.
	8 0 a. m.	23. 84	62	56	23. 76	56	55	93	S.	12	. 72	....	Light fog	....	Cumulus	3-4	S. E.	....	....	....	....	Cloudy.
	9 0 a. m.	23. 85	66	59	23. 76	59	58	94	S.	12	. 72	....	Light fog	....	Cumulus	3-4	S. E.	....	....	....	....	Cloudy.
	10 0 a. m.	23. 85	63	58	23. 77	58	57	94	S.	12	. 72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	11 0 a. m.	23. 85	63	57	23. 76	57	56	94	S. W.	9	. 40	....	Fog	....	Hidden	....	....	10. 40 a. m.	10. 55 a. m.	. 03	....	Foggy.
	12 0 m.	23. 84	64	60	23. 76	60	59	94	S. W.	10	. 50	230	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	1 0 p. m.	23. 83	63	60	23. 75	60	58	88	S. W.	14	. 98	....	Light fog	....	Cir. & cu	3-4	0	12. 15 p. m.	12. 35 p. m.	. 01	....	Cloudy.
	2 0 p. m.	23. 84	65	62	23. 75	62	58	77	S. W.	12	. 72	....	Hazy	....	Cir. & cu	3-4	S. W.	....	....	....	....	Cloudy.
	3 0 p. m.	23. 83	62	58	23. 75	58	56	88	S. W.	16	1. 28	....	Hazy	....	Cir. & cu	3-4	S. W.	....	....	....	....	Cloudy.
	4 14 p. m.	23. 82	62	60	23. 74	60	57	82	S. W.	18	1. 62	....	Hazy	....	Cir. & cu	3-4	S. W.	....	....	....	....	Cloudy.
	5 0 p. m.	23. 82	64	59	23. 74	59	56	82	S. W.	10	. 50	....	Hazy	....	Cir. & cu	3-4	S. W.	....	....	....	....	Cloudy.
	6 0 p. m.	23. 85	65	56	23. 76	56	54	87	S. W.	16	1. 28	....	Hazy	....	Cir. & cu	3-4	S. W.	....	....	....	....	Cloudy.
	7 0 p. m.	23. 85	62	55	23. 77	55	53	87	S. W.	16	1. 28	....	0	0	Cumulus	3-4	S. W.	....	....	....	....	Cloudy.
	8 0 p. m.	23. 86	63	55	23. 78	55	53	87	S. W.	8	. 32	....	0	0	Cumulus	3-4	S. W.	....	....	....	....	Cloudy.
	9 0 p. m.	23. 89	64	54	23. 81	54	53	93	S. W.	12	. 72	....	Nimbus	4-4	Hidden	....	....	8. 45 p. m.	....	. 01	....	Light rain.
	10 0 p. m.	23. 87	62	54	23. 79	54	53	93	S. W.	17	1. 44	....	Fog	....	Hidden	....	....	....	9. 20 p. m.	. 02	....	Foggy.
	10 30 p. m.	23. 86	61	54	23. 78	54	54	100	S. W.	12	. 72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 p. m.	23. 85	60	54	23. 77	54	54	100	S. W.	26	3. 38	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
Knoxville, Tenn.	7 0 a. m.	29. 19	77	74	29. 054	73	70	85	S.	2	. 02	....	0	0	0	0	0	....	....	....	....	Clear.
	7 7 a. m.	29. 19	77	74	29. 054	73	70	85	S.	2	. 02	....	0	0	0	0	0	....	....	....	....	Clear.
	11 32 a. m.	29. 21	81	81	29. 062	80	70	56	S. W.	16	1. 28	158	0	0	Cumulus	2-4	W.	....	....	....	....	Fair.
	2 0 p. m.	29. 15	84	86	28. 996	85	71	47	S.	16	1. 28	....	0	0	Cu. & cir	2-4	S. W.	....	....	....	....	Fair.
	4 7 p. m.	29. 15	85	88	28. 994	87	72	45	S.	12	. 72	....	0	0	Cumulus	1-4	S. W.	....	....	....	....	Fair.
	9 0 p. m.	29. 22	78	73	29. 082	72	69	83	N. E.	8	. 32	....	Stratus	2-4	0	0	0	....	....	....	....	Clearing.
	10 32 p. m.	29. 20	77	73	29. 063	72	67	78	E.	3	. 04	....	Stratus	1-4	0	0	0	....	....	....	....	Fair.

Meteorological record for July 27, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from —)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.84	59	53	23.77	53	53	100	S.W.	22	2.42	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	2 0 a. m.	23.84	60	54	23.76	51	54	100	S.W.	20	2.00	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	3 0 a. m.	23.83	59	54	23.76	54	54	100	S.W.	18	1.62	....	Light fog	....	Cirrus	1-4	0	....	....	....	....	Fair.
	4 0 a. m.	23.84	59	54	23.77	54	54	100	S.W.	16	1.28	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	5 0 a. m.	23.85	60	55	23.77	55	55	100	S.W.	12	.72	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	6 0 a. m.	23.87	60	56	23.79	56	56	100	S.W.	10	.50	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	7 14 a. m.	33.88	61	58	23.80	58	55	93	S.W.	6	.18	....	Light fog	....	Cumulus	3-4	0	....	....	....	....	Fair.
	8 0 a. m.	23.90	66	59	23.81	39	57	88	S.W.	3	.04	....	Light fog	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	9 0 a. m.	23.91	61	60	23.83	60	57	82	S.W.	3	.04	....	Fog	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	10 0 a. m.	23.91	62	60	23.83	60	57	82	S.W.	8	.32	....	Light fog	....	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	11 0 a. m.	23.90	62	59	23.82	59	58	94	S.W.	7	.24	....	Nimbus	1-4	Cumulus	2-4	W.	10.30 a. m.	....	.19	....	Light rain.
	12 0 m	23.88	64	60	23.80	60	59	94	S.W.	8	.32	312	Nimbus	4-4	Hidden	....	......	....	....	.06	....	Light rain.
	1 0 p. m.	23.87	62	59	23.79	59	58	94	S.W.	8	.32	....	Nimbus	4-4	Hidden	....	......	....	....	.04	....	Light rain; thunder-storm from N. to S.
	2 0 p. m.	23.86	63	58	23.78	58	57	94	S.W.	10	.50	....	Fog	....	Hidden	....	......	....	1.20 p. m.	.11	....	Foggy.
	3 0 p. m.	23.87	63	59	23.79	59	58	94	S.W.	7	.24	....	Nimbus	4-4	Hidden	....	......	2.55 p. m.	....	.07	....	Heavy rain.
	4 14 p. m.	23.85	62	61	23.77	61	59	88	S.W.	12	.72	....	Hazy	....	Cumulus	3-4	S. W.	....	3.18 p. m.	.02	....	Cloudy.
	5 0 p. m	23.86	61	58	23.78	58	57	94	S.W.	8	.32	....	Light fog	....	Cumulus	4-4	S. W.	....	....	....	....	Cloudy.
	6 0 p. m	23.86	60	57	23.78	57	56	94	S.W.	10	.50	....	Light fog	....	Cumulus	4-4	S. W.	....	....	....	....	Cloudy.
	7 0 p. m	23.86	60	55	23.78	55	54	93	S.W.	8	.32	....	Nimbus	4-4	Hidden	....	......	6.20 p. m.	....	.47	....	Heavy rain; thunder-storm.
	8 0 p. m	23.85	60	56	23.77	56	56	100	S.W.	12	.72	....	Fog	....	Hidden	....	......	....	7.25 p. m.	.11	....	Foggy.
	9 0 p. m.	23.86	60	56	23.78	56	56	100	S.W.	13	.84	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	10 0 p. m.	23.87	59	56	23.80	56	56	100	S.W.	6	.18	....	Nimbus	4-4	Hidden	....	......	9.40 p. m.	....	.03	....	Light rain.
	10 39 p. m.	23.86	59	55	23.79	55	55	100	S.W.	12	.72	....	Nimbus	4-4	Hidden	....	......	....	....	.10	....	Light rain.
	12 0 p. m.	23.85	58	54	23.78	54	54	100	S.	12	.72	....	Nimbus	4-4	Hidden	....	......	....	....	.38	....	Heavy rain; thunder-storm.
Knoxville, Tenn.	7 0 a. m	29.26	76	71	29.127	70	68	90	E.	6	.18	....	Stratus	1-4	Cumulus	3-4	S. W.	....	....	....	....	Cloudy.
	7 7 a. m.	29.26	76	71	29.127	70	68	90	E.	6	.18	....	Stratus	1-4	Cumulus	3-4	S. W.	....	....	....	....	Cloudy.
	11 32 a. m.	29.24	81	81	29.093	80	73	70	S.	6	.18	152	0	0	Cumulus	2-4	S.	9.40 a. m.	10.40 a. m.	....	....	Clearing.
	2 0 p. m	29.20	83	85	29.048	84	73	57	S.W.	6	.18	....	Stratus	2-4	Cumulus	2-4	0	....	....	....	....	Threatening.
	4 7 p. m.	29.19	82	77	29.012	76	68	64	S. E.	6	.18	....	Stratus	4-4	Hidden	....	......	3.00 p. m.	4.00 p. m.	.37	....	Threatening.
	9 0 p. m.	29.21	77	73	29.074	72	70	90	S.W.	2	.02	....	Stratus	4-4	Hidden	....	......	4.50 p. m.	5.20 p. m.	....	....	Cloudy.
	10 32 p. m.	29.21	77	72	29.073	71	70	93	S.W.	6	.18	....	Nimbus	4-4	Hidden	....	......	10.30 p. m.	12.00 p. m.	1.20	....	Light rain.

Meteorological record for July 28, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.85	58	54	23.78	54	54	100	S.	8	.32		Nimbus	4-4	Hidden					.42		Heavy rain.
	2 0 a. m.	23.84	58	54	23.77	54	54	100	S. W.	18	1.62		Nimbus	4-4	Hidden					.06		Light rain.
	3 0 a. m.	23.83	58	53	23.76	53	53	100	S. W.	20	2.00		Fog		Hidden				2.10 a. m.	.02		Foggy.
	4 0 a. m.	23.81	58	52	23.74	52	52	100	S. W.	16	1.28		Fog		Hidden							Foggy.
	5 0 a. m.	23.80	58	52	23.73	52	52	100	S. W.	14	.98		Fog		Hidden							Foggy.
	6 0 a. m.	23.81	58	52	23.74	52	52	100	S. W.	18	1.62		Fog		Hidden							Foggy.
	7 14 a. m.	23.82	59	53	23.75	53	52	93	S. W.	23	2.64		Fog		Hidden							Foggy.
	8 0 a. m.	23.83	59	55	23.76	55	53	87	S. W.	18	1.62		Light fog		Cumulus	3-4	W.					Cloudy.
	9 0 a. m.	23.85	60	59	23.77	59	55	76	S. W.	9	.40		Hazy		Cumulus	2-4	W.					Fair.
	10 0 a. m.	23.87	62	61	23.79	61	58	82	W.	8	.32		Hazy		Cumulus	3-4	S. W.					Cloudy.
	11 0 a. m.	23.88	62	64	23.80	64	61	83	W.	4	.08		Hazy		Cumulus	3-4	W.					Cloudy.
	12 0 m.	23.87	62	62	23.79	62	58	77	W.	6	.18	289	Hazy		Cumulus	3-4	S. W.					Cloudy.
	1 0 p. m.	23.86	64	64	23.78	64	58	67	N. W.	7	.24		Hazy		Cumulus	4-4	N. W.					Cloudy.
	2 0 p. m.	23.83	65	68	23.74	68	63	74	W.	5	.12		Hazy		Cumulus	3-4	N. W.					Cloudy.
	3 0 p. m.	23.83	67	68	23.74	68	62	70	S. W.	4	.08		Hazy		Cumulus	3-4	W.					Cloudy.
	4 14 p. m.	23.82	65	60	23.73	60	59	94	S. W.	5	.12		Nimbus	4-4	Hidden			3.39 p. m.		.21		Heavy rain; thunder-st'm fr. S.E. to N.W.
	5 0 p. m.	23.84	61	56	23.76	56	55	93	S. W.	8	.32		Nimbus	4-4	Hidden					.52		Heavy rain; thunder-st'm fr. S.E. to N.W.
	6 0 p. m.	23.84	61	57	23.76	57	56	94	S. W.	12	.72		Fog		Hidden				5.32 p. m.	.26		Foggy.
	7 0 p. m.	23.82	61	56	23.74	56	56	100	S. W.	20	2.00		Fog		Hidden							Foggy.
	8 0 a. m.	23.84	64	56	23.76	56	56	100	S. W.	16	1.28		Fog		Hidden							Foggy.
	9 0 a. m.	23.83	63	56	23.75	56	56	100	S. W.	18	1.62		Fog		Hidden							Foggy.
	10 0 a. m.	23.82	60	54	23.74	54	54	100	S. W.	20	2.00		Fog		Cumulus	2-4	S. W.					Foggy.
	10 39 p. m.	23.81	60	53	23.73	53	53	100	S. W.	18	1.62		Fog		0	0	0					Foggy.
	12 0 p. m.	23.80	60	53	23.72	53	53	100	S. W.	22	2.42		Fog		0	0	0				57.1	Foggy.
Knoxville, Tenn.	7 0 a. m.	29.23	77	72	29.094	71	69	90	W.	5	.12		Stratus	3-4	Cirrus	1-4	0					Clearing.
	7 7 a. m.	29.23	77	72	29.094	71	69	90	W.	5	.12		Stratus	3-4	Cirrus	1-4	0			.18		Clearing.
	11 33 a. m.	29.25	81	80	29.103	79	72	69	S. W.	8	.32	118	0	0	Cumulus	3-4	W.					Cloudy.
	2 0 p. m.	29.16	82	84	29.011	83	73	60	S.	12	.72		Hazy		Cirrus	2-4	S. W.					Fair.
	4 7 p. m.	29.16	83	84	29.009	83	72	56	W.	17	1.44		Stratus	4-4	Hidden							Threatening.
	9 0 p. m.	29.20	79	73	29.059	72	70	90	0	0	0		Stratus	2-4	Hazy			5.45 p. m.				Cloudy.
	10 32 p. m.	29.19	78	72	29.051	74	69	90	S. W.	4	.08		Stratus	4-4	Hidden				6.00 p. m.	.02		Threatening.

Meteorological record for July 29, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 79	58	52	23. 72	52	51	93	S. W.	24	2. 88	....	Light fog	....	Cirrus	2-4	.....	....	....	....	....	Fair.
	2 0 a. m.	23. 79	58	52	23. 72	52	51	93	W.	16	1. 28	....	0	0	Cirrus	2-4	.....	....	....	....	....	Fair.
	3 0 a. m.	23. 79	59	51	23. 72	51	50	93	N. W.	12	. 72	....	0	0	Cirrus	1-4	.....	....	....	....	....	Fair.
	4 0 a. m.	23. 80	58	51	23. 73	51	50	93	N. W.	10	. 50	....	0	0	Cir. & cu.	2-4	N. W.	....	....	....	....	Fair.
	5 0 a. m.	23. 80	57	52	23. 73	52	51	93	N. W.	12	. 72	....	Light fog	....	Cirrus	2-4	N. W.	....	....	....	....	Fair.
	6 0 a. m.	23. 81	58	53	23. 74	53	52	93	N. W.	12	. 72	....	0	0	Cirrus	2-4	N. W.	....	....	....	....	Fair.
	7 14 a. m.	23. 82	60	55	23. 74	55	53	87	N. W.	4	. 08	....	Hazy	....	Cir. & cu.	2-4	N. W.	....	....	....	....	Fair.
	8 0 a. m.	23. 84	62	57	23. 76	57	55	87	N. W.	7	. 24	....	Hazy	....	Cir. & cu.	2-4	N. W.	....	....	....	....	Fair.
	9 0 a. m.	23. 84	64	59	23. 76	59	57	88	N. W.	4	. 08	....	Hazy	....	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	10 0 a. m.	23. 85	63	59	23. 77	59	57	88	N. W.	4	. 08	....	Light fog	....	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	11 0 a. m.	23. 85	62	60	23. 77	60	58	88	W.	4	. 08	....	Fog	....	Hidden	....	.....	....	....	....	....	Foggy.
	12 0 m.	23. 85	62	60	23. 77	60	58	88	W.	5	. 12	269	Light fog	....	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	1 0 p. m.	23. 85	67	63	23. 76	63	59	78	N. W.	6	. 16	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	2 0 p. m.	23. 84	67	64	23. 75	64	59	73	N. W.	4	. 08	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	3 0 p. m.	23. 82	66	63	23. 73	63	60	83	N. W.	4	. 08	....	Hazy	....	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	4 14 p. m.	23. 81	63	60	23. 73	60	58	88	N. W.	8	. 32	....	Fog	....	Hidden	....	.....	....	....	....	....	Foggy.
	5 0 p. m.	23. 82	62	57	23. 74	57	56	94	N. W.	8	. 32	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	6 0 p. m.	23. 81	62	56	23. 73	56	55	94	N. W.	9	. 40	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	7 0 p. m.	23. 83	60	56	23. 75	56	55	94	N. W.	12	. 72	....	Fog	....	Hidden	....	.....	....	....	....	....	Foggy.
	8 0 p. m.	23. 84	64	54	23. 76	54	51	80	N. W.	8	. 32	....	0	0	Cir. & cu.	2-4	.....	....	....	....	....	Fair.
	9 0 p. m.	23. 85	65	55	23. 76	55	51	74	N. W.	2	. 02	....	0	0	Cirrus	1-4	.....	....	....	....	....	Fair.
	10 0 p. m.	23. 85	64	52	23. 77	52	49	79	N. W.	4	. 08	....	0	0	Cirrus	1-4	.....	....	....	....	....	Fair.
	10 39 p. m.	23. 84	63	53	23. 76	53	50	80	N. W.	4	. 08	....	0	0	Cirrus	1-4	.....	....	....	....	....	Fair.
	12 0 p. m.	23. 83	63	53	23. 75	53	51	86	N. W.	4	. 08	....	0	0	Cirrus	2-4	.....	....	....	....	56. 1	Fair.
Knoxville, Tenn.	7 0 a. m.	29. 24	76	72	29. 107	71	69	90	S. W.	8	. 32	....	Stratus	4-4	Hidden	....	.....	....	....	....	....	Cloudy.
	7 7 a. m.	29. 24	76	72	29. 107	71	69	90	S. W.	8	. 32	...	Stratus	4-4	Hidden	...	.....	In night.	In night.	. 01	....	Cloudy.
	11 33 a. m.	29. 24	80	81	29. 095	80	73	70	S.	8	. 32	151	0	0	Cumulus	2-4	W.	....	....	....	....	Fair.
	2 0 p. m.	29. 17	82	84	29. 021	83	72	56	S. W.	8	. 32	....	0	0	Cirrus	2-4	W.	....	....	....	....	Fair.
	4 7 p. m.	29. 15	84	86	28. 996	85	75	61	S.	8	. 32	....	0	0	Cumulus	2-4	W.	....	....	....	....	Fair.
	9 0 p. m.	29. 19	80	77	29. 047	76	72	81	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	10 32 p. m.	29. 20	81	75	29. 053	74	71	88	0	0	0	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.

Meteorological record for July 30, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.83	61	53	23.74	53	51	86	N. W.	4	.08	....	0	0	Cirrus	1-4	....	....	....	....	....	Fair.
	2 0 a. m.	23.82	63	54	23.74	54	53	93	N. W.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 a. m.	23.81	61	54	23.73	54	54	100	N. W.	16	1.28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 0 a. m.	23.81	60	54	23.73	54	54	100	N. W.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 a. m.	23.83	60	54	23.75	54	54	100	N. W.	12	.72	....	Fog	....	0	0	0	....	....	....	....	Foggy.
	6 0 a. m.	23.84	62	55	23.75	55	55	100	N. W.	8	.32	....	Light fog	....	Cirrus	1-4	....	....	....	....	....	Fair.
	7 14 a. m.	23.85	64	55	23.77	55	54	93	N. W.	4	.08	....	Hazy	....	Cir. & cu	2-4	....	....	....	....	....	Fair.
	8 0 a. m.	23.86	64	57	23.78	57	55	87	W.	2	.02	....	Light fog	....	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	9 0 a. m.	23.87	65	57	23.78	57	55	87	S. W.	1	.01	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	10 0 a. m.	23.88	66	59	23.79	59	58	94	S.	2	.02	....	Light fog	....	Cumulus	2-4	N. W.	....	....	....	....	Cloudy.
	11 0 a. m.	23.89	66	60	23.80	60	58	88	S. E.	4	.08	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 m.	23.89	67	57	23.80	57	56	94	E.	2	.02	153	Nimbus	4-4	Hidden	....	....	11.35 a. m.	....	.12	....	Light rain; distant thunder-storm in W.
	1 0 p. m.	23.88	65	62	23.79	62	60	88	S. E.	2	.02	....	Fog	....	Hidden	....	....	....	12.40 p. m.	.14	....	Foggy.
	2 0 p. m.	23.87	64	60	23.79	61	60	94	S. W.	8	.32	....	Fog	....	Hidden	....	....	1.20 p. m.	1.45 p. m.	.04	....	Foggy.
	3 0 p. m.	23.86	64	63	23.78	63	62	94	S. W.	2	.02	....	Light fog	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	4 14 p. m.	23.85	62	60	23.77	60	59	94	S. E.	6	.18	....	Fog	....	Hidden	....	....	3.30 p. m.	3.45 p. m.	.01	....	Foggy.
	5 0 p. m.	23.84	63	62	23.76	62	60	88	S. W.	8	.32	....	Fog	....	Cumulus	1-4	....	....	....	....	....	Foggy.
	6 0 p. m.	23.85	64	59	23.77	59	57	87	S.	14	.98	....	Hazy	....	Cir. & cu	2-4	....	....	....	....	....	Fair.
	7 0 p. m.	23.86	62	56	23.78	56	55	94	S. E.	12	.72	....	Light fog	....	Cir. & cu	3-4	S. E.	....	....	....	....	Cloudy.
	8 0 p. m.	23.87	65	57	23.78	57	57	100	S. W.	16	1.28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 p. m.	23.89	67	57	23.80	57	56.5	97	S. W.	9	.40	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 p. m.	23.88	64	56	23.80	56	56	100	S. W.	22	2.42	....	Light fog	....	Cir. & cu	2-4	S. W.	....	....	....	....	Cloudy.
	10 39 p. m.	23.87	63	56	23.79	56	55	94	S. W.	18	1.62	....	0	0	Cirrus	3-4	....	....	....	....	....	Cloudy.
	12 0 p. m.	23.86	62	55	23.78	55	53	87	S. W.	14	.98	....	0	0	Cirrus	1-4	....	....	....	....	57.2	Fair.
Knoxville, Tenn.	7 0 a. m.	29.23	77	72	29.094	71	70	90	S.	2	.02	....	Stratus	3-4	Hidden	....	....	....	....	....	....	Foggy.
	7 7 a. m.	29.23	77	72	29.094	71	70	90	S.	2	.02	....	Stratus	3-4	Hidden	....	....	....	....	....	....	Foggy.
	11 33 a. m.	29.25	82	83	29.101	82	73	63	S. W.	6	.18	89	0	0	Cumulus	2-4	S.	....	....	....	....	Fair.
	2 0 p. m.	29.20	85	87	29.043	86	75	57	S. W.	6	.18	....	0	0	Cumulus	2-4	S.	....	....	....	....	Fair.
	4 7 p. m.	29.18	85	85	29.024	84	74	60	S.	9	.40	....	0	0	Cir. & cu	3-4	0	....	....	....	....	Cloudy.
	9 0 p. m.	29.19	81	77	29.043	76	72	79	S. W.	4	.08	....	0	0	Cirrus	3-4	0	....	....	....	....	Fair.
	10 32 p. m.	29.20	81	77	29.053	76	71	77	S. W.	3	.04	....	Stratus	2-4	0	0	0	....	....	....	....	Fair.

Meteorological record for July 31, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 87	61	54	23. 79	54	52	87	S. W.	10	. 50	....	0	0	Cirrus ..	1-4	0	....	....	....	....	Fair.
	2 0 a. m.	23. 86	62	53	23. 78	53	52	93	S. W.	12	. 72	....	0	0	Cirrus ..	1-4	0	....	....	....	....	Fair.
	3 0 a. m.	23. 86	60	53	23. 78	53	52	93	S. W.	8	. 32	....	0	0	Cirrus ..	2-4	0	....	....	....	....	Fair.
	4 0 a. m.	23. 87	61	53	23. 79	53	52	93	S. W.	10	. 50	...	0	0	Cirrus ..	1-4	0	....	....	....	....	Fair.
	5 0 a. m.	23. 89	61	54	23. 81	54	53	93	S. W.	12	. 72	....	Hazy	....	Cirrus ..	1-4	0	....	....	....	....	Fair.
	6 0 a. m.	23. 87	61	59	23. 79	59	56	82	S.	8	. 32	....	Hazy	....	Cirrus ..	1-4	0	....	....	....	....	Fair.
	7 14 a. m.	23. 88	63	63	23. 80	63	59	78	S. W.	4	. 08	....	Hazy	....	Cir. & cu.	1-4	S.	....	....	....	....	Fair.
	8 0 a. m.	23. 89	66	66	23. 80	66	62	79	S.	3	. 04	....	Hazy	....	Cumulus	2-4	S. W.	....	....	....	....	Fair.
	9 0 a. m.	23. 90	67	63	23. 81	63	60	83	S.	4	. 08	....	Hazy	....	Cumulus	3-4	S. W.	....	....	....	....	Cloudy.
	10 0 a. m.	23. 90	67	64	23. 81	64	61	83	S.	3	. 04	....	Hazy	....	Cumulus	4-4	E.	....	....	....	....	Cloudy.
	11 0 a. m.	23. 89	64	60	23. 81	60	59	94	S. W.	5	. 12	....	Fog	....	Hidden .	....	......	....	....	....	....	Foggy.
	12 0 m ..	23. 89	66	61	23. 80	61	59	88	S.	4	. 08	199	Fog	....	Hidden .	....	......	....	....	....	....	Foggy.
	1 0 p. m.	23. 87	65	65	23. 78	65	62	82	S.	2	. 02	....	Fog	....	Hidden .	....	......	....	....	....	....	Foggy.
	2 0 p. m.	23. 87	66	61	23. 78	61	60	94	S. E.	2	. 02	....	Nimbus...	4-4	Hidden .	....	......	1.15 p. m.	....	. 13	....	Light rain.
	3 0 p. m.	23. 86	65	59	23. 78	59	58	94	S.	4	. 08	....	Light fog .	....	Cumulus	4-4	S. E.	....	2.55 p. m.	. 14	....	Cloudy.
	4 14 p. m.	23. 85	62	61	23. 77	61	60	94	S.	6	. 18	....	Hazy	....	Cumulus	3-4	S. E.	....	....	....	....	Cloudy.
	5 0 p. m.	23. 86	63	61	23. 78	61	59	88	S. W.	4	. 08	...	Hazy	....	Cumulus	3-4	S. E.	....	....	....	....	Cloudy.
	6 0 p. m	23. 87	66	59	23. 74	59	58	94	S. W.	4	. 08	....	Fog	....	Hidden .	....	......	....	....	....	....	Foggy.
	7 0 p. m.	23. 86	62	56	23. 78	56	55	94	N. W.	8	. 32	....	0	0	Cir. & cu.	3-4	N. W.	....	....	....	....	Cloudy.
	8 0 p. m	23. 86	64	54	23. 78	54	53	93	N. W.	8	. 32	....	0	0	Cir.-cum	2-4	0	....	....	....	....	Fair.
	9 0 p. m.	23. 87	63	55	23. 79	55	54	93	N. W.	16	1. 28	....	0	0	Cirrus ..	1-4	0	....	....	....	....	Fair.
	10 0 p. m.	23. 87	64	56	23. 79	56	56	100	N. W.	18	1. 62	....	Fog	....	Hidden .	....	......	....	....	....	....	Foggy.
	10 39 p. m.	23. 86	63	56	23. 78	56	56	100	N. W.	16	1. 28	....	Fog	....	Hidden .	...	......	....	....	....	....	Foggy.
	12 0 p. m.	23. 85	63	54	23. 77	54	54	100	N. W.	18	1. 62	....	Fog	....	Hidden .	....	......	....	....	....	....	Foggy.
Knoxville, Tenn .	7 0 a. m.	29. 24	77	73	29. 104	72	69	85	S. W.	3	. 04	....	0	0	Cir.-cum	4-4	W.	....	....	....	....	Cloudy.
	7 7 a. m.	29. 24	77	73	29. 104	72	69	85	S. W.	3	. 04	....	0	0	Cir.-cum	4-4	W.	....	....	....	....	Cloudy.
	11 33 a. m.	29. 26	81	77	29. 113	76	73	86	S. W.	12	. 72	147	0	0	Cumulus	2-4	W.	10.50 a. m.	11.05 a. m.	....	....	Clearing.
	2 0 p. m.	29. 2[illegible]	83	83	29. 048	82	71	56	S. W.	12	. 72	....	0	0	Cu. & cir.	1-4	S. W.	11.30 a. m.	11.40 a. m.	....	....	Fair.
	4 7 p. m.	29. 19	83	86	29. 039	85	73	53	S.	8	. 32	....	0	0	Cumulus	1-4	W.	....	....	. 31	....	Fair.
	9 0 p. m.	29. 23	80	78	29. 087	77	71	72	S. W.	10	. 50	....	0	0	0	0	0	....	....	....	....	Clear.
	10 32 p. m.	29. 23	73	76	29. 088	79	70	79	S. W.	8	. 32	....	0	0	0	0	0	....	....	....	....	Clear.

I.—*Meteorological record for August 1, 1873.*

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 83	63	54	23. 75	54	54	100	N. W.	20	2. 00		Fog		Hidden							Foggy.
	2 0 a. m.	23. 82	62	55	23. 74	55	55	100	N. W.	20	2. 00		Fog		Hidden							Foggy.
	3 0 a. m.	23. 82	62	53	23. 74	53	53	100	N. W.	16	1. 28		Fog		Hidden							Foggy.
	4 0 a. m.	23. 82	62	54	23. 74	54	54	100	N. W.	16	1. 28		Fog		Hidden							Foggy.
	5 0 a. m.	23. 84	61	54	23. 76	54	54	100	N. W.	20	2. 00		Fog		Hidden							Foggy.
	6 0 a. m	23. 85	62	54	23. 77	54	54	100	N. W.	22	2. 42		Fog		Hidden							Foggy.
	7 14 a. m.	23. 86	62	55	23. 78	55	55	100	N. W.	19	1. 80		Fog		Hidden							Foggy.
	8 0 a. m.	23. 87	62	55	23. 79	55	55	100	N. W.	18	1. 62		Fog		Hidden							Foggy.
	9 0 a. m.	23. 88	61	58	23. 80	58	58	100	N. W.	8	. 32		Fog		Hidden							Foggy.
	10 0 a. m.	23. 88	62	62	23. 80	62	61	94	W.	8	. 32		Hazy		Cumulus	3-4	W.					Cloudy.
	11 0 a. m.	23. 89	63	61	23. 81	61	60	94	W.	5	. 12		Hazy		Cumulus	4-4	W.					Cloudy.
	12 0 m ..	23. 88	62	63	23. 80	63	60	83	W.	8	. 32	289	Hazy		Cumulus	3-4	W.					Cloudy.
Base of Mount Mitchell, N. C.*	1 0 a. m.																					
	2 0 a. m.																					
	3 0 a. m.																					
	4 0 a. m.																					
	5 0 a. m.																					
	6 0 a. m.																					
	7 14 a. m.																					
	8 0 a. m.																					
	9 0 a. m.																					
	10 0 a. m.																					
	11 0 a. m.																					
	12 0 m ..																					
Knoxville, Tenn.	7 0 a. m.	29. 26	77	73	29. 123	72	69	85	S.W.	3	. 04		0	0	Cirrus	1-4	W.					Fair.
	7 7 a. m.	29. 26	77	73	29. 123	72	69	85	S.W.	3	. 04		0	0	Cirrus	1-4	W.					Fair.
	11 32 a. m.	29. 28	81	81	29. 133	80	71	61	S.W.	12	. 72	187	0	0	Cumulus	3-4	W.					Cloudy.

* No observations taken until August 6.

Meteorological record for August 1, 1873—Continued.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 p. m.	23.89	63	64	23.81	64	60	78	N. W.	8	.32	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	2 0 p. m.	23.89	67	64	23.80	64	60	78	N. W.	5	.12	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	3 0 p. m.	23.88	66	65	23.79	65	61	78	N. W.	2	.02	....	Hazy	....	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	4 14 p. m.	23.87	64	60	23.79	60	58	88	W.	8	.32	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	5 0 p. m.	23.87	64	60	23.79	60	58	88	N. W.	4	.08	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	6 0 p. m.	23.87	65	60	23.78	60	59	94	N. W.	4	.08	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	7 0 p. m.	23.84	61	57	23.76	57	55	87	W.	4	.08	....	Hazy	....	Cumulus	2-4	0	....	....	....	....	Fair.
	8 0 p. m.	23.85	64	56	23.77	56	55	94	N. W.	14	.98	....	0	0	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	9 0 p. m.	23.86	67	55	23.77	55	54	93	N. W.	16	1.28	....	0	0	Cumulus	2-4	0	....	....	....	....	Fair.
	10 0 p. m.	23.85	64	55	23.77	55	54	93	N. W.	14	.98	....	Light fog	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	10 39 p. m.	23.84	64	55	23.76	55	54	93	N. W.	12	.72	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	12 0 p. m.	23.84	64	55	23.76	55	55	100	N. W.	12	.72	....	Light fog	....	Cir. & cu.	3-4	0	....	....	....	....	Foggy.
Base of Mount Mitchell, N. C.*	1 0 p. m.	......	....	....	......	....	....	....	......	....	....	....	......	....	......	....	......	......	......	....	....	
	2 0 p. m.	......	....	....	......	....	....	....	......	....	....	....	......	....	......	....	......	......	......	....	....	
	3 0 p. m.	......	....	....	......	....	....	....	......	....	....	....	......	....	......	....	......	......	......	....	....	
	4 14 p. m.	......	....	....	......	....	....	....	......	....	....	....	......	....	......	....	......	......	......	....	....	
	5 0 p. m.	......	....	....	......	....	....	....	......	....	....	....	......	....	......	....	......	......	......	....	....	
	6 0 p. m.	......	....	....	......	....	....	....	......	....	....	....	......	....	......	....	......	......	......	....	....	
	7 0 p. m.	......	....	....	......	....	....	....	......	....	....	....	......	....	......	....	......	......	......	....	....	
	8 0 p. m.	......	....	....	......	....	....	....	......	....	....	....	......	....	......	....	......	......	......	....	....	
	9 0 p. m.	......	....	....	......	....	....	....	......	....	....	....	......	....	......	....	......	......	......	....	....	
	10 0 p. m.	......	....	....	......	....	....	....	......	....	....	....	......	....	......	....	......	......	......	....	....	
	10 39 p. m.	......	....	....	......	....	....	....	......	....	....	....	......	....	......	....	......	......	......	....	....	
	12 0 p. m.	......	....	....	......	....	....	....	......	....	....	....	......	....	......	....	......	......	......	....	....	
Knoxville, Tenn.	2 0 p. m.	29.23	78	74	29.091	73	69	81	N. W.	20	2.00	....	Nimbus	3-4	0	0	0	......	......	....	....	Cloudy.
	4 7 p. m.	29.23	78	75	29.092	74	72	88	S.	8	.32	....	Stratus	4-4	Hidden	....	......	2 15 p. m.	2 45 p. m.	.03	....	Cloudy.
	9 0 p. m.	29.21	76	73	29.077	72	69	85	S. W.	5	.12	....	Stratus	4-4	Hidden	....	......	......	......	....	....	Cloudy.
	10 32 p. m.	29.18	76	71	29.046	70	68	90	S. W.	5	.12	....	Cum.-strat	4-4	Hidden	....	......	......	......	....	....	Cloudy.

* No observations taken until August 6.

Meteorological record for August 2, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from —)	Comm'en'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.83	62	54	23.75	54	53	93	N. W.	12	.72	....	0	0	Cirrus ..	1-4	0	....	....	....	....	Fair.
	2 0 a. m.	23.82	61	54	23.74	54	53	93	N. W.	10	.50	....	0	0	Cirrus ..	1-4	0	....	....	....	....	Fair.
	3 0 a. m.	23.81	60	54	23.74	54	54	100	N. W.	8	.32	....	Light fog .	....	Cir.&cu.	3-4	0	....	....	....	....	Cloudy.
	4 0 a. m.	23.82	60	54	23.75	54	54	100	N. W.	12	.72	....	Fog	....	Hidden .	....	......	....	....	....	....	Foggy.
	5 0 a. m.	23.82	62	54	23.74	54	54	100	N. W.	10	.50	....	Fog	....	Hidden .	....	......	....	....	....	....	Foggy.
	6 0 a. m.	23.81	62	54	23.73	54	54	100	N. W.	12	.72	....	Fog	....	Hidden .	....	......	....	....	....	....	Foggy.
	7 14 a. m	23.81	64	55	23.73	55	55	100	N. W.	12	.72	....	Nimbus...	4-4	Hidden .	....	......	6.50 a. m.	....	.03	....	Light rain.
	8 0 a. m.	23.81	62	56	23.73	56	56	100	N. W.	8	.32	....	Fog	....	Hidden .	....	......	....	6 45 a. m.	.05	....	Foggy.
	9 0 a. m.	23.81	59	56	23.74	56	56	100	N. W.	8	.32	....	Fog	....	Hidden .	....	......	....	....	....	....	Foggy.
	10 0 a. m.	23.83	62	58	23.75	58	58	100	N. W.	12	.72	....	Fog	....	Hidden .	....	......	....	....	....	....	Foggy.
	11 0 a. m.	23.84	62	60	23.76	60	60	100	N. W.	8	.32	....	Fog	....	Hidden .	....	......	....	....	....	....	Foggy.
	12 0 m ..	23.82	63	60	23.74	60	60	100	N. W.	4	.08	227	Fog	....	Hidden .	....	......	....	....	....	....	Foggy.
Base of Mount Mitchell, N. C.*	1 0 a. m.	......	....	....	......	....	....	....	......	....	....	....	....	....	....	....	......	....	....	....	....	
	2 0 a. m.	......	....	....	......	....	....	....	......	....	....	....	....	....	....	....	......	....	....	....	....	
	3 0 a. m.	......	....	....	......	....	....	....	......	....	....	....	....	....	....	....	......	....	....	....	....	
	4 0 a. m.	......	....	....	......	....	....	....	......	....	....	....	....	....	....	....	......	....	....	....	....	
	5 0 a. m.	......	....	....	......	....	....	....	......	....	....	....	....	....	....	....	......	....	....	....	....	
	6 0 a. m.	......	....	....	......	....	....	....	......	....	....	....	....	....	....	....	......	....	....	....	....	
	7 14 a. m.	......	....	....	......	....	....	....	......	....	....	....	....	....	....	....	......	....	....	....	....	
	8 0 a. m.	......	....	....	......	....	....	....	......	....	....	....	....	....	....	....	......	....	....	....	....	
	9 0 a. m.	......	....	....	......	....	....	....	......	....	....	....	....	....	....	....	......	....	....	....	....	
	10 0 a. m.	......	....	....	......	....	....	....	......	....	....	....	....	....	....	....	......	....	....	....	....	
	11 0 a. m.	......	....	....	......	....	....	....	......	....	....	....	....	....	....	....	......	....	....	....	....	
	12 0 m ..	......	....	....	......	....	....	....	......	....	....	....	....	....	....	....	......	....	....	....	....	
Knoxville, Tenn .	7 0 a. m.	29.20	76	72	29.067	71	70	95	S. W.	4	.08	....	Stratus ...	4-4	Hidden .	....	......	....	....	....	....	Cloudy.
	7 7 a. m.	29.20	76	72	29.067	71	90	95	S. W.	4	.08	....	Stratus ...	4-4	Hidden .	....	......	....	....	....	....	Cloudy.
	11 32 a. m.	29.20	80	81	29.057	80	72	66	S. W.	8	.32	144	Stratus ...	1-4	Cumulus	2-4	0	....	....	....	....	Cloudy.

* No observations taken until August 6.

Meteorological record for August 2, 1873—Continued.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 p. m.	23. 82	63	62	23. 74	62	61	94	N. W.	8	.32	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	2 0 p. m.	23. 81	62	63	23. 73	63	60	83	N. W.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 p. m.	23. 80	64	63	23. 72	63	60	83	N. W.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 14 p. m.	23. 79	62	60	23. 71	60	60	100	N. W.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 p. m.	23. 79	62	58	23. 71	58	58	100	N. W.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 p. m.	23. 79	63	58	23. 71	58	58	100	N. W.	10	.50	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	7 0 p. m.	23. 80	63	58	23. 72	58	57	94	N. W.	8	.32	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	8 0 p. m.	23. 82	65	56	23. 73	56	55	94	N. W	8	.32	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	9 0 p. m.	23. 82	66	55	23. 73	55	52	81	N. W.	8	.32	....	Hazy	....	Cirrus	1-4	0	....	....	....	....	Fair.
	10 0 p. m.	23. 82	66	55	23. 73	55	53	87	N. W.	8	.32	....	0	0	Cirrus	2-4	0	....	....	....	....	Fair.
	10 39 p. m.	23. 83	66	55	23. 74	55	54	93	N. W	2	.02	....	Light fog	....	Cir. & cu	2-4	0	....	....	....	....	Fair.
	12 0 p. m.	23. 81	66	55	23. 72	55	54	93	N. W.	4	.08	....	0	0	Cirrus	2-4	0	....	....	....	....	Fair.
Base of Mount Mitchell, N. C.*	1 0 p. m.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
	2 0 p. m.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
	3 0 p. m.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
	4 14 p. m.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
	5 0 p. m	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
	6 0 p. m.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
	7 0 p. m.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
	8 0 p. m.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
	9 0 p. m.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
	10 0 p. m.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
	10 30 p. m.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
	12 0 p. m.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
Knoxville, Tenn.	2 0 p. m.	29. 15	83	85	28. 908	84	73	58	S. W.	7	.24	....	Stratus	1-4	Cumulus	1-4	W.	....	....	....	....	Fair.
	4 7 p. m	29. 13	81	75	28. 984	74	69	76	S. W.	12	.72	....	Stratus	3-4	Cumulus	1-4	0	....	....	....	....	Cloudy.
	9 0 p. m.	29. 12	78	74	28. 932	73	69	81	0	0	.00	....	0	0	0	0	0	....	....	....	....	Clear.
	10 32 p. m.	29. 14	77	73	29. 003	72	70	90	S. W.	2	.02	....	Stratus	1-4	Cir-cum.	2-4	0	....	....	....	....	Cloudy.

* No observations taken until August 6.

Meteorological record for August 3, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 80	63	55	23. 72	55	54	93	N. W.	8	.32		0	0	Cirrus	1-4	0					Fair.
	2 0 a. m.	23. 79	62	56	23. 71	56	55	94	N. W.	8	.32		0	0	Cirrus	2-4	0					Fair.
	3 0 a. m.	23. 78	61	56	23. 70	56	55	94	N. W.	10	.50		0	0	Cirrus	1-4	0					Fair.
	4 0 a. m.	23. 77	60	55	23. 69	55	54	93	N. W.	12	.72		0	0	Cirrus	1-4	0					Fair.
	5 0 a. m.	23. 77	59	54	23. 70	54	53	93	S. W.	12	.72		Hazy		Cirrus	1-4	0					Fair.
	6 0 a. m.	23. 78	60	56	23. 70	56	54	87	N. W.	12	.72		Hazy		Cirrus	1-4	0					Fair.
	7 14 a. m.	23. 79	61	59	23. 71	59	56	82	N. W.	8	.32		Hazy		Cirrus	1-4	0					Fair.
	8 0 a. m.	23. 80	63	60	23. 72	60	57	82	N. W.	4	.08		Hazy		Cumulus	3-4	N. W.					Cloudy.
	9 0 a. m.	23. 82	70	63	23. 72	63	58	72	N. W.	6	.18		Hazy		Cumulus	3-4	N. W.					Cloudy.
	10 0 a. m.	23. 82	66	63	23. 73	63	58	72	N. W.	5	.12		Hazy		Cumulus	3-4	N. W.					Cloudy.
	11 0 a. m.	23. 82	67	65	23. 73	65	59	68	N. W.	4	.08		Hazy		Cumulus	3-4	N. W.					Cloudy.
	12 0 m.	23. 82	70	66	23. 72	66	60	69	N. W.	6	.18	170	Hazy		Cir. & cu.	2-4	N. W.					Fair.
Base of Mount Mitchell, N. C.*	1 0 a. m.																					
	2 0 a. m.																					
	3 0 a. m.																					
	4 0 a. m.																					
	5 0 a. m.																					
	6 0 a. m.																					
	7 14 a. m.																					
	8 0 a. m.																					
	9 0 a. m.																					
	10 0 a. m.																					
	11 0 a. m.																					
	12 0 m.																					
Knoxville, Tenn.	7 0 a. m.	29. 14	75	73	29. 010	72	70	90	S. W.	3	.04		0	0	Cirrus	4-4	0					Cloudy.
	7 7 a. m.	29. 14	75	73	29. 010	72	70	90	S. W.	3	.04		0	0	Cirrus	4-4	0					Cloudy.
	11 32 a. m.	29. 16	81	82	29. 014	81	75	78	W.	6	.18	114	Stratus	2-4	Cirrus	1-4	0					Cloudy.

* No observations taken until August 6.

Meteorological record for August 5, 1875—Continued.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 p. m.	23. 82	69	68	23. 73	68	61	65	N. W.	8	. 32		Hazy		Cir. & cu.	3-4	N. W.					Cloudy.
	2 0 p. m.	23. 82	68	69	23. 73	69	62	65	N. W.	8	. 32		Hazy		Cir. & cu.	3-4	N. W.					Cloudy.
	3 0 p. m.	23. 81	68	63	23. 72	63	61	85	N. W.	6	. 18		Hazy		Cir. & cu.	3-4	N. W.					Cloudy; distant thunder storm.
	4 14 p. m.	23. 79	66	61	23. 70	61	59	88	N. W.	12	. 72		Hazy		Cir. & cu.	3-4	N. W.					Cloudy.
	5 0 p. m.	23. 79	66	62	23. 70	62	58	77	N. W.	8	. 32		Hazy		Cir. & cu.	3-4	N. W.					Cloudy.
	6 0 p. m.	23. 79	67	58	23. 70	58	58	100	N. W	12	. 72		Fog		Hidden							Foggy.
	7 0 p. m.	23. 82	66	55	23. 73	55	55	100	N. W.	16	1. 28		Fog		Hidden			6. 20 p. m.	6. 48 p. m.	. 03		Foggy.
	8 0 p. m.	23. 83	70	53	23. 73	53	52	93	N. W.	14	. 98		0	0	Cir. & cu.	2-4	0	7. 20 p. m.	7. 40 p. m.	. 04		Fair.
	9 0 p. m.	23. 84	69	53	23. 75	53	52	93	N. W.	12	. 72		0	0	Cirrus	2-4	0					Fair.
	10 0 p. m.	23. 84	68	53	23. 75	53	52	93	N. W.	10	. 50		0	0	Cirrus	2-4	0					Fair.
	10 39 p. m.	23. 84	68	53	23. 74	53	52	93	N. W.	8	. 32		0	0	Cirrus	2-4	0					Fair.
	12 0 p. m.	23. 82	63	53	23. 74	53	52	93	N. W.	8	. 32		0	0	Cirrus	1-4	0					Fair.
Base of Mount Mitchell, N. C.*	1 0 p. m.																					
	2 0 p. m.																					
	3 0 p. m.																					
	4 14 p. m.																					
	5 0 p. m.																					
	6 0 p. m.																					
	7 0 p. m.																					
	8 0 p. m.																					
	9 0 p. m.																					
	10 0 p. m.																					
	10 30 p. m.																					
	12 0 p. m.																					
Knoxville, Tenn.	2 0 p. m.	29. 14	84	87	28. 986	86	72	48	S. W.	8	. 32		0	0	Cu. & cir.	3 4	W.					Cloudy.
	4 7 p. m.	29. 14	81	78	28. 994	77	72	77	N. E.	13	. 84		Stratus	2-4	Cumulus	2-4	0	3. 15 p. m.	3. 25 p. m.	. 06		Clearing.
	9 0 p. m.	29. 20	78	74	29. 062	73	70	85	N. E.	4	. 08		Stratus	4-4	Hidden							Cloudy.
	10 32 p. m.	29. 20	78	73	29. 062	72	69	85	N.	8	. 32		Stratus	1-4	Cumulus	4-4	W.					Cloudy.

* No observations taken until August 6.

Meteorological record for August 4, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM. Attached.	THERM. Exposed.	Corrected barometer.	HYGROM. Dry bulb.	HYGROM. Wet bulb.	Relative humidity.	WIND. Direction.	WIND. Velocity per hour.	WIND. Pressure per sq. ft.	WIND. Daily velocity.	LOWER CLOUDS. Kind.	LOWER CLOUDS. Amount.	UPPER CLOUDS. Kind.	UPPER CLOUDS. Amount.	UPPER CLOUDS. Direction, (moving from—)	RAIN OR SNOW. Commen'd.	RAIN OR SNOW. Ended.	Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 80	61	53	23. 72	53	51	86	N. W.	12	. 72		0	0	Cirrus	1-4	0					Fair.
	2 0 a. m.	23. 80	60	53	23. 72	53	51	86	N. W.	4	. 08		0	0	Cirrus	1-4	0					Fair.
	3 0 a. m.	23. 79	60	54	23. 71	54	53	93	W.	4	. 08		Light fog		Cirrus	1-4	0					Fair.
	4 0 a. m.	23. 80	59	55	23. 73	55	54	93	W.	6	. 18		Light fog		Cirrus	1-4	0					Fair.
	5 0 a. m.	23. 80	58	55	23. 73	55	54	93	S. W.	4	. 08		Light fog		Cirrus	2-4	0					Fair.
	6 0 a. m.	23. 81	59	56	23. 74	56	55	94	S. W.	7	. 24		Light fog		Cirrus	2-4	0					Fair.
	7 14 a. m.	23. 82	60	58	23. 74	58	56	88	S. W.	7	. 24		Light fog		Cumulus	2-4	0					Fair.
	8 0 a. m.	23. 84	62	59	23. 76	59	57	88	S. W.	6	. 18		Fog		Hidden							Foggy.
	9 0 a. m.	23. 85	62	60	23. 77	60	58	88	S. W.	5	. 12		Fog		Hidden							Foggy.
	10 0 a. m.	23. 87	67	62	23. 78	62	59	83	S. W.	4	. 08		Fog		Hidden							Foggy.
	11 0 a. m.	23. 86	63	60	23. 78	60	58	88	S. W.	5	. 12		Fog		Hidden							Foggy.
	12 0 m.	23. 86	63	62	23. 78	62	60	88	S. W.	5	. 12	193	Fog		Hidden							Foggy.
Base of Mount Mitchell, N. C.*	1 0 a. m.																					
	2 0 a. m.																					
	3 0 a. m.																					
	4 0 a. m.																					
	5 0 a. m.																					
	6 0 a. m.																					
	7 14 a. m.																					
	8 0 a. m.																					
	9 0 a. m.																					
	10 0 a. m.																					
	11 0 a. m.																					
	12 0 m.																					
Knoxville, Tenn.	7 0 a. m.	29. 23	75	71	29. 100	70	69	90	N. E.	8	. 32		Stratus	4-4	Hidden							Cloudy.
	7 7 a. m.	29. 23	75	71	29. 100	70	69	90	N. E.	8	. 32		Stratus	4-4	Hidden							Cloudy.
	11 32 a. m.	29. 26	77	78	29. 123	77	69	65	E.	8	. 32	213	0	0	Cumulus	4-4	W.					Cloudy.

* No observations taken until August 6.

Meteorological record for August 4, 1873—Continued.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 p. m.	23.84	64	64	23.76	64	61	83	S.	2	.02	....	Fog	....	Hidden	....	....	12 18 p. m.	12.39 p. m.	.04	....	Foggy.
	2 0 p. m.	23.82	64	57	23.74	57	56	94	N. W.	5	.12	....	Fog	....	Hidden	....	....	1.06 p. m.	1.18 p. m.	.01	....	Foggy.
	3 0 p. m.	23.82	63	55	23.74	55	55	100	N. W.	6	.18	....	Fog	....	Hidden	....	....	2.20 p. m.	2.45 p. m.	.15	....	Foggy; thunder-st'm from west to east.
	4 14 p. m.	23.83	63	56	23.75	56	56	100	N. W.	4	.08	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 p. m.	23.84	63	56	23.76	56	56	100	N.	3	.04	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 p. m.	23.84	62	55	23.76	55	55	100	N.	3	.04	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 0 p. m.	23.85	61	53	23.77	53	53	100	N. E.	6	.18	....	Nimbus	4-4	Hidden	....	....	6.50 p. m.	....	.04	....	Light rain.
	8 0 p. m.	23.86	62	52	23.78	52	52	100	E.	10	.50	....	Nimbus	4-4	Hidden	....	....	....	....	.07	....	Light rain.
	9 0 p. m.	23.87	65	51	23.78	51	51	100	E.	6	.18	....	Nimbus	4-4	Hidden	....	....	....	....	.09	....	Light rain.
	10 0 p. m.	23.86	63	51	23.78	51	51	100	E.	8	.32	....	Nimbus	4-4	Hidden	....	....	....	....	.12	....	Light rain.
	10 39 p. m.	23.86	62	50	23.78	50	50	100	E.	10	.50	....	Nimbus	4-4	Hidden	....	....	....	....	.02	....	Light rain.
	12 0 p. m.	23.86	60	49	23.78	49	49	100	E.	14	.98	....	Fog	....	Hidden	....	....	....	11.32 p. m.	.01	....	Foggy.
Base of Mount Mitchell, N. C.*	1 0 p. m.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
	2 0 p. m.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
	3 0 p. m.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
	4 14 p. m.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
	5 0 p. m.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
	6 0 p. m.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
	7 0 p. m.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
	8 0 p. m.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
	9 0 p. m.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
	10 0 p. m.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
	10 39 p. m.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
	12 0 p. m.	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	
Knoxville, Tenn.	2 0 p. m.	29.22	80	80	29.076	79	67	50	N. W.	12	.72	....	0	0	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	4 7 p. m.	29.21	80	79	29.067	78	68	64	N.	20	2.00	....	0	0	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	9 0 p. m.	29.24	78	74	29.101	73	65	63	N.	16	1.28	....	0	0	Cumulus	2-4	E.	....	....	....	....	Fair.
	10 32 p. m.	29.25	77	72	29.113	71	65	71	N.	7	.24	....	0	0	Cumulus	2-4	S.	....	....	....	....	Fair.

* No observations taken until August 6.

Meteorological record for August 5, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 86	62	49	23. 78	49	49	100	E.	14	. 98		Fog		Hidden							Foggy.
	2 0 a. m.	23. 87	62	48	23. 79	48	48	100	E.	16	1. 28		Fog		Hidden							Foggy.
	3 0 a. m.	23. 86	61	48	23. 72	48	48	100	E.	12	. 72		Fog		Hidden							Foggy.
	4 0 a. m.	23. 85	61	48	23. 77	48	48	100	E.	10	. 50		Fog		Hidden							Foggy.
	5 0 a. m.	23. 86	60	48	23. 78	48	48	100	E.	9	. 40		Fog		Hidden							Foggy.
	6 0 a. m.	23. 87	61	48	23. 79	48	48	100	E.	8	. 32		Fog		Hidden							Foggy.
	7 14 a. m.	23. 88	59	49	23. 81	49	49	100	E.	10	. 50		Fog		Hidden							Foggy.
	8 0 a. m.	23. 90	58	49	23. 83	49	49	100	E.	10	. 50		Fog		Hidden							Foggy.
	9 0 a. m.	23. 91	58	50	23. 84	50	50	100	E.	8	. 32		Fog		Hidden							Foggy.
	10 0 a. m.	23. 92	58	50	23. 85	50	50	100	N. E.	10	. 50		Fog		Hidden							Foggy.
	11 0 a. m.	23. 92	58	50	23. 85	50	50	100	N. E.	11	. 60		Fog		Hidden							Foggy.
	12 0 m	23. 92	58	51	23. 85	51	51	100	N. E.	10	. 50	215	Fog		Hidden							Foggy.
Base of Mount Mitchell, N. C.*	1 0 a. m.																					
	2 0 a. m																					
	3 0 a. m.																					
	4 0 a. m.																					
	5 0 a. m.																					
	6 0 a. m.																					
	7 14 a. m.																					
	8 0 a. m.																					
	9 0 a. m.																					
	10 0 a. m.																					
	11 0 a. m.																					
	12 0 m																					
Knoxville, Tenn.	7 0 a. m.	29. 31	74	69	29. 182	68	63	74	N. E.	8	. 32		0	0	Cumulus	1-4	S. W.					Fair.
	7 7 a. m.	29. 31	74	69	29. 182	68	63	74	N. E.	8	. 32		0	0	Cumulus	1-4	S. W.					Fair.
	11 32 a. m.	29. 34	78	70	29. 200	78	68	57	N. E.	4	. 08	193	0	0	Cumulus	2-4	E.					Fair.

* No observations taken until August 6.

Meteorological record for August 5, 1873—Continued.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.			WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.	Relative humidity.	Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 p. m.	23.92	60	53	23.84	53	52	93	N. E.	9	.40		Fog		Hidden							Foggy.
	2 0 p. m.	23.91	65	54	23.82	54	52	87	E.	8	.32		Fog		Hidden							Foggy.
	3 0 p. m.	23.90	62	55	23.82	55	53	87	E.	8	.32		Fog		Hidden							Foggy.
	4 14 p. m.	23.90	63	54	23.82	54	53	93	E.	8	.32		Fog		Hidden							Foggy.
	5 0 p. m.	23.90	62	54	23.82	54	52	87	E.	8	.32		Fog		Hidden							Foggy.
	6 0 p. m.	23.90	62	52	23.82	52	51	93	E.	8	.32		Fog		Hidden							Foggy.
	7 0 p. m.	23.90	59	51	23.83	51	50	93	E.	8	.32		Fog		Hidden							Foggy.
	8 0 p. m.	23.90	59	51	23.83	51	51	100	E.	16	1.28		Fog		Hidden							Foggy.
	9 0 p. m.	23.90	61	50	23.82	50	50	100	E.	12	.72		Fog		Hidden							Foggy.
	10 0 p. m.	23.91	61	50	23.83	50	49	93	S. E.	12	.72		Fog		Hidden							Foggy.
	10 39 p. m.	23.92	61	50	23.84	50	50	100	S. E.	12	.72		Fog		Hidden							Foggy.
	12 0 p. m.	23.90	60	49	23.83	49	49	100	S. E.	16	1.28		Fog		Hidden							Foggy.
Base of Mount Mitchell, N. C.*	1 0 p. m.																					
	2 0 p. m.																					
	3 0 p. m.																					
	4 14 p. m.																					
	5 0 p. m.																					
	6 0 p. m.																					
	7 0 p. m.																					
	8 0 p. m.																					
	9 0 p. m.																					
	10 0 p. m.																					
	10 39 p. m.																					
	12 0 p. m.																					
Knoxville, Tenn.	2 0 p. m.	29.27	81	83	29.123	82	69	49	N.	11	.60		0	0	Cumulus	2-4	N. E.					Fair.
	4 7 p. m.	29.26	82	85	29.111	84	70	46	N. E.	10	.50		0	0	Cumulus	2-4	0					Fair.
	9 0 p. m.	29.30	79	77	29.158	76	70	72	N. E.	3	.04		0	0	Cumulus	3-4	S. W.					Cloudy.
	10 32 p. m.	29.30	78	75	29.161	74	69	76	S. W.	6	.18		0	0	Cumulus	3-4	S. W.					Cloudy.

* No observations taken until August 6.

Meteorological record for August 6, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM. Attached.	THERM. Exposed.	Corrected barometer.	HYGROM. Dry bulb.	HYGROM. Wet bulb.	Relative humidity.	WIND. Direction.	WIND. Velocity per hour.	WIND. Pressure per sq. ft.	WIND. Daily velocity.	LOWER CLOUDS. Kind.	LOWER CLOUDS. Amount.	UPPER CLOUDS. Kind.	UPPER CLOUDS. Amount.	UPPER CLOUDS. Direction, (moving from—)	RAIN OR SNOW. Commen'd.	RAIN OR SNOW. Ended.	Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 90	62	49	23. 82	49	49	100	S. E.	12	. 72	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	2 0 a. m.	23. 90	62	49	23. 82	49	49	100	S. E.	12	. 72	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	3 0 a. m.	23. 89	60	48	23. 81	48	48	100	E.	16	1. 28	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	4 0 a. m.	23. 88	57	48	23. 81	48	48	100	E.	16	1. 28	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	5 0 a. m.	23. 88	54	49	23. 82	49	48	93	E.	8	. 32	....	Light fog	....	Cumulus	2-4	0	....	....	....	....	Cloudy.
	6 0 a. m.	23. 89	52	49	23. 83	49	49	100	S. E.	12	. 72	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	7 14 a. m.	23. 89	53	49	23. 83	49	49	100	S. E.	10	. 50	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	8 0 a. m.	23. 90	53	50	23. 84	50	49	93	S. E.	10	. 50	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	9 0 a. m.	23. 91	54	50	23. 85	50	49	93	S. E.	8	. 32	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	10 0 a. m.	23. 91	54	51	23. 85	51	50	93	S. E.	9	. 40	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	11 0 a. m.	23. 91	57	51	23. 84	51	50	93	E.	8	. 32	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	12 0 m ..	23. 91	58	51	23. 84	51	50	93	E.	4	. 08	269	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
Base of Mount Mitchell, N. C.	1 0 a. m.	27. 63	65	60	27. 52	60	59	94	0	0	0	....	Stratus	2-4	0	0	0	....	....	....	....	Fair.
	2 0 a. m.	27. 63	64	58	27. 52	58	57	94	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	3 0 a. m.	27. 62	63	58	27. 51	58	57	94	0	0	0	....	Stratus	2-4	0	0	0	....	....	....	....	Fair.
	4 0 a. m.	27. 62	62	57	27. 52	57	56	94	0	0	0	....	0	0	Cumulus	1-4	S. E.	....	....	....	....	Fair.
	5 0 a. m.	27. 62	62	56	27. 52	56	55	93	0	0	0	....	Stratus	1-4	Cirrus	1-4	0	....	....	....	....	Fair.
	6 0 a. m.	27. 04	61	50	27. 54	59	58	94	0	0	0	....	Stratus	1-4	Cirrus	2-4	0	....	....	....	....	Fair.
	7 14 a. m.	27. 67	64	64	27. 56	64	60	78	0	0	0	....	Stratus	3-4	Cirrus	1-4	0	....	....	....	....	Cloudy.
	8 0 a. m.	27. 67	66	69	27. 56	69	63	70	E.	1	. 01	....	0	0	Cumulus	2-4	E.	....	....	....	....	Fair.
	9 0 a. m.	27. 66	68	68	27. 56	68	62	69	E.	1	. 01	....	Stratus	3-4	Cirrus	1-4	0	....	....	....	....	Cloudy.
	10 0 a. m.	27. 67	68	70	27. 55	70	64	70	E.	1	. 01	....	Stratus	2-4	Cirrus	1-4	0	....	....	....	....	Fair.
	11 0 a. m.	27. 66	70	74	27. 54	74	65	59	E.	1	. 01	....	Stratus	2-4	Cirrus	1-4	0	....	....	....	....	Fair.
	12 0 m ..	27. 66	73	80	27. 53	80	69	55	0	0	0	4	Stratus	3-4	0	0	0	....	....	....	....	Fair.
Knoxville, Tenn.	7 0 a. m.	29. 35	75	69	29. 220	68	65	84	N. E.	6	. 18	....	0	0	Cirrus	4-4	0	....	....	....	....	Cloudy.
	7 7 a. m.	29. 35	75	69	29. 220	68	65	84	N. E.	6	. 18	....	0	0	Cirrus	4-4	0	....	....	....	....	Cloudy.
	11 32 a. m.	29. 35	78	79	29. 210	78	73	73	N. E.	7	. 24	145	0	0	Cirrus	1-4	0	....	....	....	....	Fair.

Meteorological record for August 6, 1873—Continued.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometor, Daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 p. m.	23. 90	57	52	23. 83	52	51	93	E.	4	. 08	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	2 0 p. m.	23. 90	58	51	23. 83	51	50	93	E.	4	. 08	....	Fog	....	Hidden	...	......	....	....	....	....	Foggy.
	3 0 p. m.	23. 89	58	53	23. 82	53	50	80	E.	8	. 32	....	Fog	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	4 14 p. m.	23. 89	59	53	23. 82	53	51	86	E.	8	. 32	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	5 0 p. m.	23. 89	59	53	23. 82	53	51	86	E.	4	. 08	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	6 0 p. m.	23. 88	58	51	23. 81	51	49	86	E.	8	. 32	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	7 0 p. m.	23. 88	59	49	23. 81	49	49	100	E.	12	. 72	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	8 0 p. m.	23. 88	59	48	23. 81	48	48	100	E.	12	. 72	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	9 0 p. m.	23. 88	58	48	23. 81	48	48	100	E.	12	. 72	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	10 0 p. m.	23. 88	57	47	23. 81	47	46	92	S.	12	. 72	...	0	0	Cumulus	1·4	0	....	....	....	....	Fair.
	10 39 p. m.	23. 88	56	47	23. 81	47	46	92	S.	10	. 50	....	0	0	Cumulus	1·4	0	....	....	....	....	Fair.
	12 0 p. m.	23. 87	53	46	23. 81	46	44	84	S.	12	. 72	....	0	0	Cumulus	1·4	0	....	....	....	....	Fair.
Base of Mount Mitchell, N. C.	1 0 p. m.	27. 65	74	74	27. 52	74	65	59	E.	1	. 01	....	Stratus ...	3-4	0	0	0	....	....	....	....	Fair.
	2 0 p. m.	27. 63	75	78	27. 49	78	67	54	E.	1	. 01	...	Stratus ...	2·4	Cirrus ..	1·4	W.	....	....	....	....	Fair.
	3 0 p. m.	27. 62	75	70	27. 48	70	62	61	0	0	0	....	Stratus ...	3-4	0	0	0	....	....	....	....	Fair.
	4 14 p. m.	27. 62	73	70	27. 49	70	63	66	0	0	0	....	Stratus ...	1·4	Cirrus ..	1·4	0	....	....	....	....	Fair.
	5 0 p. m.	27. 61	73	69	27. 48	69	63	70	0	0	0	....	Stratus ...	1·4	Cirrus ..	1·4	0	....	....	....	....	Fair.
	6 0 p. m.	27. 63	71	63	27. 50	63	61	89	0	0	0	....	Stratus ...	1·4	Cir. & cu.	2·4	0	....	....	....	....	Fair.
	7 0 p. m.	27. 63	69	62	27. 51	62	61	94	0	0	0	....	Stratus ...	3·4	0	0	0	....	....	....	....	Fair.
	8 0 p. m.	27. 63	69	60	27. 51	60	59	94	0	0	0	....	Stratus ...	2·4	0	0	0	....	....	....	....	Fair.
	9 0 p. m.	27. 63	67	58	27. 51	58	57	94	0	0	0	....	Stratus ...	1·4	0	0	0	....	....	....	....	Fair.
	10 0 p. m.	27. 61	64	56	27. 50	56	55	93	0	0	0	....	Stratus ...	2·4	0	0	0	....	....	....	....	Fair.
	10 39 p. m.	27. 60	64	55	27. 49	55	54	93	0	0	0	....	Stratus ...	2·4	0	0	0	....	....	....	....	Fair.
	12 0 p. m.	27. 61	63	54	27. 50	54	53	93	0	0	0	....	Stratus ..	4·4	0	0	0	....	....	....	....	Cloudy.
Knoxville, Tenn.	2 0 p. m.	29. 30	80	83	29. 155	82	67	42	N. E.	12	. 72	....	0	0	Cumulus	1·4	E.	....	....	....	....	Fair.
	4 7 p. m.	29. 27	81	85	29. 123	84	67	37	E.	20	2. 00	...	0	0	Cumulus	3·4	E.	....	....	....	....	Cloudy.
	9 0 p. m.	29. 27	77	74	29. 130	73	67	71	S. W.	3	. 04	...	0	0	Cumulus	1·4	S. W.	....	....	....	....	Fair.
	10 32 p. m.	29. 27	76	72	29. 136	71	68	85	0	0	0	....	0	0	Cumulus	4·4	S.	....	....	....	....	Cloudy.

Meteorological record for August 7, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 87	55	46	23. 80	46	44	84	S.	16	1. 28	...	Fog	....	Cumulus	2-4	S. E.	....	....	....	....	Fair.
	2 0 a. m.	23. 86	55	45	23. 79	45	44	92	S. W.	20	2. 00	...	Hazy	....	Cumulus	3-4	S.	....	....	....	....	Cloudy.
	3 0 a. m.	23. 85	56	45	23. 79	45	44	92	S. W.	20	2. 00	....	Fog	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	4 0 a. m.	23. 84	56	46	23. 77	46	44	84	S. W.	16	1. 28	....	Fog	....	Cumulus	4-4	0	....	....	....	....	Cloudy.
	5 0 a. m.	23. 85	57	48	23. 78	48	46	85	W.	12	. 72	....	Fog	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	6 0 a. m.	23. 86	57	50	23. 79	50	48	86	W.	16	1. 28	....	Fog	....	Cumulus	4-4	0	....	....	....	....	Cloudy.
	7 14 a. m.	23. 86	58	53	23. 79	53	52	93	W.	8	. 32	....	Fog	...	Cumulus	2-4	W.	....	....	....	....	Cloudy.
	8 0 a. m.	23. 86	57	64	23. 79	54	53	93	W.	4	. 08	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	9 0 a. m.	23. 86	57	56	23. 79	56	55	93	W.	6	. 16	....	Fog	...	Hidden	....	......	....	....	....	....	Foggy.
	10 0 a. m.	23. 86	59	57	23. 79	57	55	87	W.	4	. 08	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	11 0 a. m.	23. 87	58	56	23. 80	56	55	93	W.	4	. 08	...	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	12 0 m.	23. 87	59	59	23. 80	59	57	88	W.	4	. 08	223	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
Base of Mount Mitchell, N. C.	1 0 a. m.	27. 58	62	55	27. 48	55	54	93	0	0	0	....	Stratus	4-4	Hidden	....	......	....	....	....	....	Cloudy.
	2 0 a. m.	27. 57	62	55	27. 47	55	54	93	0	0	0	....	Stratus	4-4	Hidden	...	......	....	....	....	....	Cloudy.
	3 0 a. m.	27. 56	62	56	28. 46	56	55	93	0	0	0	....	Stratus	2-4	0	0	0	....	....	....	....	Fair.
	4 0 a. m.	27. 56	62	56	27. 46	56	55	93	0	0	0	....	Stratus	4 4	Hidden	...	......	....	....	....	....	Cloudy.
	5 0 a. m.	27. 57	61	57	27. 47	57	56	94	0	0	0	....	Stratus	2-4	Cumulus	1-4	S. W.	....	....	....	....	Fair.
	6 0 a. m.	27. 57	61	59	27. 47	59	57	88	0	0	0	....	0	0	Cumulus	2-4	S. W.	....	....	....	....	Fair.
	7 14 a. m	27. 57	64	66	27. 46	66	61	73	0	0	0	....	0	0	Cirrus	2-4	S. W.	....	....	....	....	Fair.
	8 0 a. m.	27. 58	66	69	27. 47	69	63	70	0	0	0	....	0	0	Cir. & cu.	2-4	S. W.	....	....	....	....	Fair.
	9 0 a. m.	27. 58	69	71	27. 46	71	64	66	0	0	0	....	Stratus	1-4	Cirrus	2-4	S. W.	....	....	....	....	Fair.
	10 0 a. m.	27. 58	72	76	27. 45	76	68	64	0	0	0	....	Stratus	3-4	Cirrus	1-4	W.	....	....	....	....	Cloudy.
	11 0 a. m	27. 58	74	73	27. 45	73	66	67	0	0	0	...	Stratus	2-4	Cirrus	1-4	W.	....	....	....	....	Fair.
	12 0 m ..	27. 57	77	75	27. 43	75	68	68	0	0	0	3	Stratus	2-4	Cirrus	1-4	W.	....	....	....	....	Fair.
Knoxville, Tenn.	7 0 a. m.	29. 27	74	73	29. 141	72	67	73	N. E.	7	. 24	....	Hazy	....	Cir. & cu	4-4	0	....	....	....	....	Cloudy.
	7 7 a. m.	29. 27	74	73	29. 141	72	67	73	N. E.	7	. 24	...	Hazy	....	Cir. & cu	4-4	0	....	....	....	....	Cloudy.
	11 32 a. m	29. 29	80	81	28. 145	80	69	55	S.	5	. 12	194	0	0	Cir. & cu	3-4	W.	....	....	....	....	Cloudy.

Meteorological record for August 7, 1873—Continued.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 p. m.	23.86	62	61	23.78	61	58	82	W.	4	.08	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 p. m.	23.86	63	63	23.78	63	59	78	W.	4	.08	....	Fog	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	3 0 p. m.	23.85	66	63	23.76	63	59	78	W.	8	.32	....	Fog	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	4 14 p. m.	23.84	63	60	23.76	60	57	82	W.	4	.08	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 p. m.	23.83	64	58	23.75	58	56	88	W.	4	.08	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 p. m.	23.84	67	56	23.75	56	55	93	W.	1	.01	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 0 p. m.	23.85	68	55	23.76	55	54	93	S. W.	4	.08	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 p. m.	23.86	64	54	23.77	54	53	93	S. W.	2	.02	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 p. m.	23.86	65	55	23.78	55	54	93	0	0	0	....	Hazy	....	Cumulus	2-4	0	....	....	....	....	Fair.
	10 0 p. m.	23.86	62	55	23.78	55	54	93	0	0	0	....	Fog	....	Cumulus	1-4	0	....	....	....	....	Fair.
	10 39 p. m.	23.86	66	54	23.77	54	53	93	0	0	0	....	Fog	....	Cumulus	2-4	0	....	....	....	....	Fair.
	12 0 p. m.	23.87	67	55	23.78	55	54	93	N. W.	2	.02	....	0	0	Cumulus	1-4	0	....	....	....	....	Fair.
Base of Mount Mitchell, N. C.	1 0 p. m.	27.55	76	74	27.41	74	66	63	0	0	0	....	Stratus	3-4	0	0	0	....	....	....	....	Fair.
	2 0 p. m.	27.54	77	74	27.40	74	67	68	0	0	0	....	0	0	Cumulus	3-4	W.	....	....	....	....	Fair.
	3 0 p. m.	27.52	77	75	27.38	75	69	72	0	0	0	....	0	0	Cumulus	2-4	W.	....	....	....	....	Fair.
	4 14 p. m.	27.52	76	72	27.38	72	68	80	0	0	0	....	Stratus	2-4	Cirrus	1-4	W.	....	....	....	....	Fair.
	5 0 p. m.	27.50	76	72	27.36	72	69	85	0	0	0	....	Stratus	2-4	Cirrus	1-4	W.	....	....	....	....	Cloudy.
	6 0 p. m.	27.51	76	71	23.37	71	68	85	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	7 0 p. m.	27.53	75	68	27.39	68	67	95	0	0	0	....	Stratus	3-4	Cumulus	1-4	0	....	....	....	....	Cloudy.
	8 0 p. m.	27.52	73	66	27.39	66	65	94	0	0	0	....	Stratus	2-4	Cumulus	1-4	0	....	....	....	....	Fair.
	9 0 p. m.	27.54	72	63	27.41	63	62	94	0	0	0	....	Stratus	2-4	Cirrus	1-4	N.	....	....	....	....	Fair.
	10 0 p. m.	27.54	71	63	27.41	63	62	94	0	0	0	....	Stratus	2-4	Cir.-cum	1-4	W.	....	....	....	....	Fair.
	10 39 p. m.	27.53	69	61	27.41	61	60	94	0	0	0	....	Stratus	2-4	Cir.-cum	1-4	0	....	....	....	....	Cloudy.
	12 0 p. m.	27.51	68	62	27.39	62	61	94	0	0	0	....	Stratus	2-4	Cirrus	1-4	0	....	....	....	....	Fair.
Knoxville, Tenn.	2 0 p. m.	29.22	82	83	29.071	82	70	52	N. W.	4	.08	....	Hazy	....	Cumulus	2-4	S. W.	....	....	....	....	Cloudy.
	4 7 p. m.	29.15	85	87	29.038	86	74	55	S. W.	5	.12	....	Hazy	....	Cumulus	2-4	S. W.	....	....	....	....	Fair.
	9 0 p. m.	29.21	76	75	29.077	74	68	71	E.	5	.12	....	0	0	Cumulus	2-4	S. W.	....	....	....	....	Fair.
	10 32 p. m.	29.21	77	73	29.073	72	68	81	N. E.	2	.02	....	0	0	Cumulus	1-4	S. W.	....	....	....	....	Fair.

Meteorological record for August 8, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.85	65	55	23.76	55	54	93	N. W.	4	.08		Light fog		Cirrus	1-4	W.					Fair.
	2 0 a. m.	23.84	64	55	23.76	55	54	93	N. W.	8	.32		Light fog		Cirrus	2-4	0					Fair.
	3 0 a. m.	23.83	64	55	23.75	53	54	93	N. W.	10	.50		Light fog		Cirrus	2-4	0					Fair.
	4 0 a. m.	23.81	64	53	23.73	53	52	93	N. W.	9	.40		Light fog		Cirrus	2-4	0					Fair.
	5 0 a. m.	23.82	64	54	23.74	54	53	93	N. W.	10	.50		Fog		Hidden							Foggy.
	6 0 a. m.	23.82	63	54	23.74	54	54	100	0	0	0		Fog		Hidden							Foggy.
	7 14 a. m.	23.82	59	53	23.75	53	52	93	N. W.	12	.72		Fog		Hidden							Foggy.
	8 0 a. m.	23.83	59	53	23.76	53	53	100	N. W.	10	.50		Fog		Hidden							Foggy.
	9 0 a. m.	23.83	59	54	23.76	54	54	100	N. W.	12	.72		Fog		Hidden							Foggy.
	10 0 a. m.	23.84	59	55	23.77	55	55	100	N. W.	8	.32		Fog		Hidden			9.10 a. m.	9.40 a. m.	.03		Foggy.
	11 0 a. m.	23.85	60	56	23.77	56	56	100	N. W.	6	.18		Fog		Hidden							Foggy.
	12 0 m	23.83	62	58	23.75	58	57	94	N. W.	8	.32	133	Fog		Hidden							Foggy.
Base of Mount Mitchell, N. C.	1 0 a. m.	27.51	68	60	27.39	60	59	94	0	0	0		Fog		Hidden							Foggy.
	2 0 a. m.	27.51	67	60	27.39	60	59	94	0	0	0		Fog		Hidden							Foggy.
	3 0 a. m.	27.50	66	60	27.39	60	59	94	0	0	0		Fog		Hidden							Foggy.
	4 0 a. m.	27.50	65	60	27.39	60	59	94	0	0	0		Stratus	4-4	Hidden							Cloudy.
	5 0 a. m.	27.51	66	61	27.40	61	59	88	0	0	0		Stratus	4-4	Hidden							Cloudy.
	6 0 a. m.	27.51	66	63	27.40	63	62	94	0	0	0		Stratus	4-4	Hidden							Cloudy.
	7 14 a. m.	27.52	67	66	27.40	66	64	89	0	0	0		Stratus	4-4	Hidden							Cloudy.
	8 0 a. m.	27.53	68	67	27.41	67	64	84	0	0	0		Stratus	4-4	Hidden							Cloudy.
	9 0 a. m.	27.54	69	68	27.42	68	66	89	0	0	0		Nimbus	4-4	Hidden			8.25 a. m.				Light rain.
	10 0 a. m.	27.53	71	69	27.40	69	67	90	0	0	0		Nimbus	3-4	Hidden					.03		Heavy rain.
	11 0 a. m.	27.53	73	72	27.40	72	68	80	0	0	0		Stratus	3-4	Cirrus	1-4	W.		10.20 a. m.	.01		Cloudy.
	12 0 m	27.51	75	74	27.37	74	70	81	0	0	0	2	0	0	Cumulus	2-4	W.	11.15 a. m.	11.25 a. m.	.01		Fair.
Knoxville, Tenn.	7 0 a. m.	29.21	75	71	29.080	70	68	90	N. E.	3	.04		Stratus	1-4	Cumulus	4-4	S. W.					Cloudy.
	7 7 a. m.	29.21	75	71	29.080	71	69	90	N. E.	3	.04		Stratus	1-4	Cumulus	4-4	S. W.					Cloudy.
	11 32 a. m.	29.22	83	84	29.068	83	72	56	S. W.	8	.32	94	0	0	Cumulus	3-4	S. W.					Cloudy.

Meteorological record for August 8, 1873—Continued.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 p. m.	23. 81	63	60	23. 73	60	58	88	N. W.	8	. 32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 p. m.	23. 83	63	64	23. 75	64	61	83	N. W.	3	. 04	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 p. m.	23. 84	65	64	23. 75	64	61	83	N. W.	6	. 18	....	Hazy	....	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	4 14 p. m.	23. 83	62	60	23. 75	60	58	88	N. W.	4	. 08	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 p. m.	23. 82	62	57	23. 74	57	57	100	N. W.	4	. 08	....	Fog	....	Hidden	....	....	4 25 p. m.	....	. 37	....	Light rain.
	6 0 p. m.	23. 81	62	56	23. 73	56	56	100	N. W.	8	. 32	....	Fog	....	Hidden	....	....	....	5 10 p. m.	. 03	....	Foggy.
	7 0 p. m.	23. 80	61	56	23. 72	56	55	94	N. W.	8	. 32	....	Hazy	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	8 0 p. m.	23. 80	61	54	23. 72	54	54	100	N. W.	4	. 08	....	Hazy	....	Cumulus	2-4	0	....	....	....	....	Fair.
	9 0 p. m.	23. 81	62	54	23. 73	54	54	100	N. W.	12	. 72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 p. m.	23. 82	63	54	23. 74	54	54	100	N. W.	12	. 72	....	Fog	....	Cumulus	2-4	0	....	....	....	....	Fair.
	10 39 p. m.	23. 82	61	54	23. 74	54	54	100	N. W.	16	1. 28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 p. m.	23. 81	60	53	23. 73	53	53	100	N. W.	16	1. 28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
Base of Mount Mitchell, N. C.	1 0 p. m.	27. 49	77	77	27. 35	77	71	73	N. W.	4	. 08	....	0	0	Cumulus	1-4	W.	....	....	....	....	Fair.
	2 0 p. m.	27. 48	79	76	27. 33	76	70	73	0	0	0	....	Stratus	2-4	Cumulus	1-4	W.	....	....	....	....	Fair.
	3 0 p. m.	27. 49	79	75	27. 34	75	70	77	0	0	0	....	Stratus	2-4	Cumulus	1-4	W.	....	....	....	....	Fair.
	4 14 p. m.	27. 48	78	71	27. 33	71	68	85	S. W.	4	. 08	....	Stratus	2-4	Cumulus	1-4	S. W.	....	....	....	....	Fair.
	5 0 p. m.	27. 47	76	70	27. 33	70	68	89	W.	4	. 08	....	Nimbus	3-4	Cumulus	1-4	W.	....	....	....	....	Light rain.
	6 0 p. m.	27. 47	73	69	27. 34	69	67	90	0	0	0	....	Stratus	1-4	Cirrus	1-4	0	....	....	....	....	Fair.
	7 0 p. m.	27. 49	73	65	27. 36	65	64	94	0	0	0	....	0	0	Cirrus	1-4	W.	....	....	....	....	Fair.
	8 0 p. m.	27. 49	70	64	27. 37	64	62	89	0	0	0	....	Stratus	1-4	Cirrus	1-4	0	....	....	....	....	Fair.
	9 0 p. m.	27. 50	70	62	27. 38	62	61	94	0	0	0	....	Stratus	1-4	Cirrus	1-4	0	....	....	....	....	Fair.
	10 0 p. m.	27. 49	68	61	27. 37	61	60	94	0	0	0	....	Fog	....	Cirrus	1-4	0	....	....	....	....	Foggy.
	0 39 p. m.	27. 49	67	60	27. 37	60	60	100	0	0	0	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 p. m.	27. 48	66	60	27. 37	60	59	94	0	0	0	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
Knoxville, Tenn.	2 0 p. m.	29. 17	83	84	29. 018	83	73	60	N.	12	. 72	....	0	0	Cumulus	3-4	S. W.	....	....	....	....	Cloudy.
	4 7 p. m.	29. 15	85	87	28. 994	86	74	65	S. W.	5	. 12	....	0	0	Cumulus	2-4	W.	....	....	....	....	Fair.
	9 0 p. m.	29. 16	79	75	29. 019	74	70	85	E.	4	. 08	....	0	0	Cumulus	1-4	S. W.	....	....	....	....	Fair.
	11 32 p. m.	29. 18	79	74	29. 038	73	70	85	0	0	0	....	Stratus	1-4	Cumulus	1-4	W.	10 45 p. m.	10 55 p. m.	. 01	....	Cloudy.

Meteorological record for August 9, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 81	59	54	23. 74	54	54	100	N. W.	20	2. 00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 a. m	23. 81	59	54	23. 74	54	54	100	N. W.	16	1. 28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 a. m.	23. 80	58	54	23. 73	54	54	100	N. W.	20	2. 00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 0 a. m	23. 80	58	54	23. 73	54	54	100	N. W.	20	2. 00	..	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 a. m.	23. 81	58	54	23. 74	54	54	100	N. W.	20	2. 00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 a. m.	23. 82	59	54	23. 75	54	54	100	N. W.	12	. 72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 14 a. m	23. 83	59	55	23. 76	55	55	100	N. W.	12	. 72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 a. m.	23. 84	59	55	23. 77	55	55	100	N. W.	8	. 32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 a. m	23. 84	59	55	23. 77	55	55	100	N. W.	14	. 98	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 a. m.	23. 85	61	57	23. 77	57	57	100	N. W.	10	. 50	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	11 0 a. m.	23. 87	65	60	23. 78	60	59	94	N. W.	6	. 18	....	Fog	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	12 0 m ..	23. 86	64	59	23. 78	59	58	94	N. W.	8	. 32	259	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
Base of Mount Mitchell, N. C.	1 0 a. m.	27. 47	65	60	27. 36	60	59	94	0	0	0	....	Stratus ...	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	2 0 a. m.	27. 46	65	60	27. 35	60	59	94	0	0	0	...	Stratus ...	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	3 0 a. m.	27. 47	65	60	27. 36	60	59	94	0	0	0	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 0 a. m.	27. 48	65	61	27. 37	61	60	94	0	0	0	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 a. m.	27. 49	65	62	27. 38	62	61	94	0	0	0	....	Stratus ...	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	6 0 a. m.	27. 51	67	63	27. 39	63	61	89	0	0	0	....	Stratus ...	1-4	Cumulus	1-4	W.	....	....	....	....	Fair.
	7 14 a. m.	27. 51	67	69	27. 39	69	66	85	0	0	0	....	0	0	Cumulus	2-4	W.	....	....	....	....	Fair.
	8 0 a. m.	27. 52	70	79	27. 40	79	70	62	N. E.	4	. 08	....	0	0	Cumulus	2-4	W.	....	....	....	....	Fair.
	9 0 a. m.	27. 53	75	78	27. 40	78	69	61	N. E.	4	. 08	...	0	0	Cumulus	2 4	W.	....	....	....	....	Fair.
	10 0 a. m.	27. 53	77	79	27. 39	79	70	62	N. E.	1	. 01	....	0	0	Cumulus	2-4	W.	....	....	....	....	Fair.
	11 0 a. m.	27. 52	78	80	27. 38	80	71	62	N. E.	1	. 01	....	0	0	Cumulus	1-4	W.	....	....	....	....	Fair.
	12 0 m ..	27. 51	80	78	27. 36	78	70	65	N. E.	4	. 08	11	0	0	Cumulus	1-4	N. W.	....	....	....	....	Fair.
Knoxville, Tenn .	7 0 a. m.	29. 21	76	72	29. 077	71	70	95	0	0	0	....	Fog	....	Cir.-cum	3-4	N. W.	....	....	....	....	Fair.
	7 7 a. m.	29. 21	77	72	29. 077	71	70	95	0	0	0	....	Fog	....	Cir.-cum	3 4	N. W.	....	....	....	....	Fair.
	11 32 a. m.	29. 23	83	85	29. 078	84	73	57	S. W	4	. 08	102	0	0	Cumulus	3-4	W.	....	....	....	....	Cloudy.

Meteorological record for August 9, 1873—Continued.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 p. m.	23.85	64	62	23.77	62	61	94	W.	4	.08		Fog		Cumulus	3-4	0					Cloudy.
	2 0 p. m.	23.85	66	61	23.76	61	61	100	W.	4	.08		Fog		Hidden							Foggy.
	3 0 p. m.	23.84	64	60	23.76	60	60	100	W.	4	.08		Fog		Hidden			2 15 p. m.	2 45 p. m.	.20		Foggy.
	4 14 p. m.	23.83	65	61	23.74	61	59	88	N. W.	4	.08		Fog		Cumulus	3-4	0					Foggy.
	5 0 p. m.	33.83	64	59	23.75	59	59	100	N. W.	7	.24		Hazy		Cumulus	4-4	0					Cloudy.
	6 0 p. m.	23.82	64	59	23.74	59	58	94	N. W.	7	.24		Fog		Hidden							Foggy.
	7 0 p. m.	23.82	63	59	23.74	59	59	100	N. W.	11	.60		Fog		Hidden							Foggy.
	8 0 p. m.	23.83	62	58	23.75	58	58	100	N. W.	8	.32		Fog		Hidden							Foggy.
	9 0 p. m.	23.84	62	57	23.76	57	57	100	N. W.	8	.32		Fog		Hidden							Foggy.
	10 0 p. m.	23.85	61	55	23.77	55	55	100	N. W.	7	.24		Fog		Cumulus	2-4	0					Fair.
	10 39 p. m.	23.86	61	56	23.78	56	54	87	N. W.	4	.08		Hazy		Cir. & cu.	2-4	N. W.					Fair.
	12 0 p. m.	23.86	61	56	23.78	56	54	87	N. W.	2	.02		Hazy		Cir. & cu.	2-4	N. W.					Fair.
Base of Mount Mitchell, N. C.	1 0 p. m.	27.50	81	80	27.35	80	71	63	N. E.	4	.08		0	0	Cumulus	2-4	N. W.					Fair.
	2 0 p. m.	27.50	81	77	27.35	77	71	73	N. E.	1	.01		0	0	Cumulus	4-4	N. W.					Cloudy.
	3 0 p. m.	27.49	79	78	27.34	78	69	61	0	0	0		0	0	Cumulus	4-4	N. W.					Cloudy.
	4 14 p. m.	27.48	78	74	27.34	74	71	86	0	0	0		Stratus	1-4	Cumulus	1-4	0	3 10 p. m.	3 40 p. m.	.04		Fair.
	5 0 p. m.	27.47	78	73	27.33	73	71	90	N. E.	4	.08		0	0	Cumulus	1-4	0					Fair.
	6 0 p. m.	27.48	77	69	27.34	69	68	95	0	0	0		Stratus	2-4	Cumulus	1-4	0					Fair.
	7 0 p. m.	27.50	75	67	27.36	67	66	95	0	0	0		Stratus	4-4	Hidden							Cloudy.
	8 0 p. m.	27.52	74	67	27.39	67	66	95	0	0	0		Nimbus	3-4	Hidden			7 20 p. m.		.04		Light rain.
	9 0 p. m.	27.52	73	65	27.39	65	64	94	0	0	0		Stratus	1-4	Cir.-cum	1-4	0		8 30 p. m.	.00		Fair.
	10 0 p. m.	27.53	71	64	27.40	64	63	94	0	0	0		Stratus	1-4	Cir.-cum	1 4	W.					Fair.
	10 39 p. m.	27.52	70	63	27.40	63	62	94	0	0	0		Stratus	4-4	Hidden							Cloudy.
	12 0 p. m.	27.51	69	62	27.39	62	62	100	0	0	0		Fog		Hidden							Foggy.
Knoxville, Tenn.	2 0 p. m.	29.19	81	76	29.043	75	72	85	0	0	0		Stratus	3-4	0	0	0					Cloudy.
	4 7 p. m.	29.18	83	82	20.029	81	74	70	N. W.	8	.32		Stratus	3-4	Cumulus	2-4	0	1 15 p. m.	1 45 p. m.	.61		Threatening.
	9 0 p. m.	29.23	79	75	29.088	74	70	81	0	0	0		0	0	Cumulus	4-4	N. E.					Cloudy.
	10 32 p. m.	29.21	80	73	29.066	72	71	92	N.	4	.08		Stratus	1-4	Cumulus	2-4	N.					Clearing.

Meteorological record for August 10, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 85	60	56	23. 77	56	54	87	N. W.	4	.08	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	2 0 a. m.	23. 84	60	55	23. 76	55	54	93	N. W.	2	.02	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	3 0 a. m.	23. 82	50	55	23. 75	55	54	93	N. W.	6	.18	....	0	0	Cirrus	2-4	0	....	....	....	....	Fair.
	4 0 a. m.	23. 81	59	55	23. 74	55	54	93	N. W.	1	.01	....	0	0	Cirrus	2-4	0	....	....	....	....	Fair.
	5 0 a. m.	23. 81	59	55	23. 75	55	54	93	N. W.	2	.02	....	Hazy	....	Cirrus	1-4	0	....	....	....	....	Fair.
	6 0 a. m.	23. 82	59	56	23. 75	56	55	94	N. W.	4	.08	....	Hazy	....	Cir. & cu	2-4	N. W.	....	....	....	....	Fair.
	7 14 a. m.	23. 84	60	58	23. 77	58	56	88	N. W.	6	.18	....	Hazy	....	Cir. & cu	2-4	N. W.	....	....	....	....	Fair.
	8 0 a. m.	23. 85	60	60	23. 78	60	58	88	N. W.	3	.04	....	Hazy	....	Cirrus	2-4	N. W.	....	....	....	....	Fair.
	9 0 a. m.	23. 86	63	61	23. 78	61	59	88	N. W.	5	.12	....	Hazy	....	Cirrus	2-4	N. W	....	....	....	....	Fair.
	10 0 a. m.	23. 88	65	66	23. 79	66	61	73	N. W.	2	.02	....	Hazy	....	Cir. & cu	2-4	N. W.	....	....	....	....	Fair.
	11 0 a. m.	23. 89	67	64	23. 80	64	60	78	N. E.	4	.08	....	Hazy	....	Cumulus	3-4	N. E.	....	....	....	....	Cloudy.
	12 0 m.	23. 88	64	60	23. 80	60	56	88	0	0	0	106	Hazy	....	Cumulus	3-4	N. E.	....	....	....	....	Cloudy.
Base of Mount Mitchell, N. C.	1 0 a. m.	27. 50	62	62	27. 38	62	61	94	0	0	0	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 a. m.	27. 50	68	62	27. 38	62	61	94	0	0	0	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 a. m.	27. 51	68	63	27. 39	63	62	94	0	0	0	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 0 a. m.	27. 51	68	61	27. 39	61	60	94	N. E.	1	.01	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 a. m.	27. 51	67	59	27. 39	59	58	94	0	0	0	....	Fog	....	Cirrus	1-4	0	....	....	....	....	Foggy.
	6 0 a. m.	27. 52	66	61	27. 41	61	60	94	0	0	0	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 14 a. m.	27. 52	67	67	27. 40	67	65	89	0	0	0	....	0	0	Cir.-cum	1-4	0	....	....	....	....	Fair.
	8 0 a. m.	27. 53	69	74	27. 41	74	68	72	0	0	0	....	0	0	Cir.-cum	2-4	W.	....	....	....	....	Fair.
	9 0 a. m.	27. 54	74	76	27. 41	76	70	73	N. W.	1	.01	....	0	0	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	10 0 a. m.	27. 55	77	79	27. 41	79	71	66	N. E.	1	.01	....	0	0	Cumulus	2-4	W.	....	....	....	....	Fair.
	11 0 a. m.	27. 54	79	81	27. 39	81	71	59	N. E.	1	.01	....	0	0	Cumulus	2-4	N. E.	....	....	....	....	Fair.
	12 0 m.	27. 55	78	71	27. 41	71	68	85	N. E.	4	.08	9	Nimbus	4-4	Hidden	....	....	11.35 a. m.	....	.02	....	Heavy rain.
Knoxville, Tenn.	7 0 a. m.	29. 24	76	70	29. 107	69. 5	69	97	N. W.	3	.04	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 7 a. m.	29. 24	76	70	29. 107	69. 5	69	97	N. W.	3	.04	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	11 32 a. m.	29. 25	81	81	29. 104	81	72	66	N.	4	.08	85	0	0	Cumulus	3-4	N. E.	....	....	....	....	Fair.

Meteorological record for August 10, 1873—Continued.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 p. m.	23.87	66	63	23.78	63	59	78	S. E.	4	.08	....	Nimbus	1-4	Cumulus	3-4	S. E.	1.00 p. m.	....	....	....	Light rain.
	2 0 p. m.	23.85	63	57	23.77	57	57	100	N. E.	8	.32	....	Nimbus	4-4	Hidden	....	....	....	....	.43	....	Heavy rain; thunder-storm from E.
	3 0 p. m.	23.85	63	58	23.77	58	57	94	N. E.	2	.02	....	Hazy	....	Cumulus	4-4	N. E.	....	2.10 p. m.	.06	....	Cloudy.
	4 14 p. m.	23.84	62	58	23.76	58	57	94	N. W	16	1.28	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	5 0 p. m.	23.83	63	59	23.75	59	58	94	N. W.	12	.72	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	6 0 p. m.	23.83	67	57	23.74	57	55	87	N. E.	12	.72	....	Hazy	....	Cumulus	3-4	N.	....	....	....	....	Cloudy.
	7 0 p. m.	23.84	62	57	23.76	57	56	94	N. E.	10	.50	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 p. m.	23.85	62	54	23.77	54	54	100	E.	8	.32	....	Nimbus	4-4	Hidden	....	....	7.32 p. m.	....	.26	....	Heavy rain.
	9 0 p. m.	23.85	60	55	23.77	55	55	100	E.	12	.72	....	Nimbus	4-4	Hidden	....	....	....	....	.15	....	Light rain.
	10 0 p. m.	23.84	60	54	23.76	54	54	100	N. E.	8	.32	....	Nimbus	4-4	Hidden	....	....	....	....	.21	....	Light rain.
	10 39 p. m.	23.83	59	53	23.76	53	53	100	N. E.	18	1.62	....	Fog	....	Hidden	....	....	....	10.30 p. m.	.06	....	Foggy.
	12 0 p. m.	28.83	58	53	23.76	53	52	93	N. E.	8	.32	....	Light fog	....	Cirrus	2-4	0	....	....	....	....	Clearing up.
Base of Mount Mitchell, N. C.	1 0 p. m.	27.54	77	72	27.40	72	68	80	N. E.	1	.01	....	Stratus	2-4	Cumulus	1-4	N. W.	....	12.30 p. m.	.11	....	Cloudy.
	2 0 p. m.	27.52	78	73	27.38	73	70	80	0	0	0	....	Stratus	2-4	Cumulus	1-4	N. W.	....	....	....	....	Cloudy.
	3 0 p. m.	27.51	78	75	27.37	75	70	77	N. E.	1	.01	....	Stratus	1-4	Cumulus	1-4	N.	....	....	....	....	Fair.
	4 14 p. m.	27.49	78	75	27.35	75	70	77	E.	1	.01	....	Stratus	1-4	Cirrus	1-4	0	....	....	....	....	Fair.
	5 0 p. m.	27.49	78	74	27.35	74	70	81	0	0	0	....	Stratus	1-4	Cumulus	1-4	0	....	....	....	....	Fair.
	6 0 p. m.	27.49	77	71	27.35	71	68	85	0	0	0	....	Stratus	2-4	Cumulus	1-4	N.	....	....	....	....	Fair.
	7 0 p. m.	27.53	75	73	27.30	73	65	63	N.	4	.08	....	Stratus	4-4	Hidden	....	....	6.38 p. m.	6.55 p. m.	....	....	Cloudy.
	8 0 p. m.	27.56	73	65	27.43	65	65	100	N. W.	4	.08	..	Nimbus	4-4	Hidden	....	....	7.25 p. m.	....	.43	....	Heavy rain.
	9 0 p. m.	27.54	72	65	27.41	65	65	100	N. W.	1	.01	....	Nimbus	4-4	Hidden	....	....	....	....	.53	....	Heavy rain.
	10 0 p. m.	27.53	72	65	27.40	65	64	94	N. W.	4	.08	....	Stratus	3-4	Hidden	....	....	....	9.46 p. m.	.04	....	Cloudy.
	10 39 p. m.	27.53	72	64	27.40	64	63	94	0	0	0	....	Stratus	1-4	0	0	0	....	....	....	....	Fair.
	12 0 p. m.	27.50	70	61	27.38	61	60	94	0	0	0	....	Fog	....	Cirrus	1-4	0	....	....	....	....	Foggy.
Knoxville, Tenn.	2 0 p. m.	29.21	84	87	29.056	86	74	55	N.	5	.12	....	0	0	Cumulus	2-4	N. E.	....	....	....	....	Fair.
	4 7 p. m.	29.16	85	90	29.003	89	74	47	N.	12	.72	....	0	0	Cumulus	1-4	N. E.	....	....	....	....	Fair.
	9 0 p. m.	29.20	80	78	29.056	77	71	71	N.	6	.18	....	0	0	Cumulus	1-4	0	....	....	....	....	Fair.
	10 32 p. m	29.19	80	76	29.046	75	70	74	N.	6	.18	....	0	0	0	0	0	....	....	....	....	Clear.

Meteorological record for August 11, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 82	58	54	23. 75	54	53	93	N. E.	8	. 32	....	0	0	Cirrus	1-4	....	....	....	....	....	Fair.
	2 0 a. m.	23. 81	58	54	23. 74	54	53	93	N. E.	8	. 32	....	0	0	Cirrus	1-4	....	....	....	....	....	Fair.
	3 0 a. m.	23. 81	58	55	23. 74	55	53	87	N. E.	4	. 08	....	0	0	Cirrus	2-4	....	....	....	....	....	Fair.
	4 0 a. m.	23. 80	58	55	23. 73	55	53	87	N. E.	4	. 08	....	0	0	Cirrus	2-4	....	....	....	....	....	Fair.
	5 0 a. m.	23. 81	59	55	23. 74	55	53	87	N. E.	8	. 32	....	0	0	Cirrus	2-4	....	....	....	....	....	Fair.
	6 0 a. m.	23. 82	59	55	23. 75	55	54	94	N. E.	7	. 24	....	0	0	Cirrus	2-4	....	....	....	....	....	Fair.
	7 14 a. m.	23. 83	60	56	23. 76	56	55	94	N. E.	4	. 08	....	0	0	Cirrus	2-4	....	....	....	....	....	Fair.
	8 0 a. m.	23. 83	61	56	23. 75	56	55	94	N. E.	4	. 08	....	Light fog	....	Cirrus	2-4	....	....	....	....	....	Fair.
	9 0 a. m.	23. 84	63	57	23. 76	57	57	100	N. E.	4	. 08	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 a. m.	23. 85	63	58	23. 77	58	56	88	N. E.	4	. 08	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	11 0 a. m.	23. 86	65	61	23. 77	61	58	82	N. E.	4	. 08	....	Light fog	....	Cumulus	4-4	N. E.	....	....	....	....	Cloudy.
	12 0 m.	23. 86	66	62	23. 77	62	59	83	N. E.	6	. 18	173	Hazy	....	Cumulus	3-4	N. E.	....	....	....	....	Cloudy.
Base of Mount Mitchell, N. C.	1 0 a. m.	27. 49	69	61	27. 37	61	60	94	0	0	0	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 a. m.	27. 49	69	61	27. 39	61	60	94	0	0	0	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 a. m.	27. 49	68	61	27. 39	61	60	94	0	0	0	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 0 a. m.	27. 49	67	61	27. 37	61	60	94	0	0	0	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 a. m.	27. 49	67	61	27. 37	61	60	94	0	0	0	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 a. m.	27. 51	66	60	27. 40	60	60	100	0	0	0	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 14 a. m.	27. 51	67	67	27. 39	67	64	84	0	0	0	....	Stratus	1-4	0	0	0	....	....	....	....	Clear.
	8 0 a. m.	27. 52	69	75	27. 40	75	70	77	0	0	0	....	Stratus	1-4	Cirrus	1-4	W.	....	....	....	....	Fair.
	9 0 a. m.	27. 54	73	73	27. 41	73	68	76	S. E.	4	. 08	....	Stratus	2-4	Cumulus	1-4	W.	....	....	....	....	Fair.
	10 0 a. m.	27. 54	75	74	27. 40	74	68	72	S. E.	4	. 08	....	Stratus	2-4	Cumulus	1-4	0	....	....	....	....	Fair.
	11 0 a. m	27. 53	77	76	27. 39	76	69	68	S. E.	1	. 01	....	0	0	Cumulus	2-4	S. E.	....	....	....	....	Fair.
	12 0 m.	27. 52	78	74	27. 38	74	68	72	S. E.	4	. 08	16	0	0	Cumulus	1-4	S. E.	....	....	....	....	Fair.
Knoxville, Tenn.	7 0 a. m.	29. 22	76	72	29. 087	71	68	83	N.	2	. 02	....	Hazy	....	0	0	0	....	....	....	....	Fair.
	7 7 a. m.	29. 22	76	72	29. 087	71	68	83	N.	2	. 02	....	Hazy	....	0	0	0	....	....	....	....	Fair.
	11 32 a. m.	29. 21	82	84	29. 062	83	70	59	E.	8	. 32	138	0	0	Cumulus	1-4	N. E.	....	....	....	....	Fair.

Meteorological record for August 11, 1879—Continued.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 p. m.	23.85	66	62	23.76	62	59	83	E.	4	.08	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 p. m.	23.84	66	61	23.75	61	59	88	0	0	0	....	Hazy	....	Cumulus	3-4	E.	....	....	....	....	Cloudy.
	3 0 p. m.	23.83	65	63	23.74	63	60	83	E.	2	.02	....	Hazy	....	Cumulus	4-4	E.	....	....	....	....	Cloudy.
	4 14 p. m.	23.82	64	58	23.74	58	57	94	E.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 p. m.	23.82	63	58	23.74	58	57	94	E.	4	.08	....	Hazy	....	Cumulus	3-4	E.	4.25 p. m.	4.40 p. m	.15	....	Cloudy.
	6 0 p. m.	23.82	64	57	23.74	57	57	100	S. E.	4	.08	....	Light fog	....	Cumulus	3-4	S. E.	....	....	....	....	Cloudy.
	7 0 p. m.	23.82	64	56	23.74	56	55	94	N. E.	3	.04	....	Light fog	....	Cir. & cu	2-4	N. E.	....	....	....	....	Fair.
	8 0 p. m.	23.83	64	55	23.75	55	53	87	N. E.	6	.18	....	0	0	Cumulus	2-4	N. E.	....	....	....	....	Fair.
	9 0 p. m.	23.84	61	54	23.76	54	53	93	S. E.	10	.50	....	0	0	Cumulus	3-4	S. E.	....	....	....	....	Cloudy.
	10 0 p. m.	23.84	59	53	23.77	53	51	86	E.	10	.50	....	0	0	Cir. & cu	2-4	0	....	....	....	....	Fair.
	10 39 p. m.	23.83	58	52	23.76	52	51	93	S.	12	.72	....	0	0	Cir. & cu	2-4	0	....	....	....	....	Fair.
	12 0 p. m.	23.82	58	52	23.75	52	51	93	S.	6	.18	....	0	0	Cirrus	2-4	0	....	....	....	....	Fair.
Base of Mount Mitchell, N. C.	1 0 p. m.	27.51	78	75	27.37	75	68	68	S. E.	4	.08	....	0	0	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	2 0 p. m.	27.50	78	76	27.36	76	70	73	S. E.	4	.08	....	0	0	Cumulus	1-4	S.	....	....	....	....	Fair.
	3 0 p. m.	27.50	78	73	27.36	73	68	76	S. E.	4	.08	....	Stratus	2-4	Cumulus	1-4	0	....	....	....	....	Cloudy.
	4 14 p. m.	27.49	77	73	27.35	73	69	81	0	0	0	....	Stratus	2-4	Cumulus	1-4	0	....	....	....	....	Cloudy.
	5 0 p. m.	27,49	77	72	27.35	72	68	80	E.	1	.01	....	Stratus	2-4	Cumulus	2-4	W.	....	....	....	....	Cloudy.
	6 0 p. m.	27.49	75	70	27.35	70	68	90	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	7 0 p. m.	27.49	75	68	27.35	68	66	89	0	0	0	....	0	0	Cumulus	1-4	W.	....	....	....	....	Fair.
	8 0 p. m.	27.51	74	68	27.38	68	65	84	E.	1	.01	....	Stratus	1-4	0	0	0	....	....	....	....	Fair.
	9 0 p. m.	27.51	73	65	27.38	65	63	89	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	10 0 p. m.	27.51	71	63	27.38	63	62	94	0	0	0	....	0	0	Cumulus	1-4	S.	....	....	....	....	Clear.
	10 39 p. m.	27.51	70	62	27.39	62	60	88	0	0	0	....	0	0	Cirrus	1-4	N.	....	....	....	....	Clear.
	12 0 p. m.	27.48	67	59	27.36	59	58	94	0	0	0	....	Fog	....	Cir. cum.	1-4	S. W.	....	....	....	....	Fair.
Knoxville, Tenn.	2 0 p. m.	29.18	85	86	29.023	85	71	47	N.	6	.18	....	0	0	Cumulus	2-4	S. E.	....	....	....	....	Fair.
	4 7 p. m.	29.15	86	89	28.990	88	72	42	N.	11	.60	....	Hazy	....	Cumulus	1-4	N. E.	....	....	....	....	Fair.
	9 0 p. m.	29.13	81	79	28.984	78	71	69	N.	2	.02	....	0	0	0	0	0	....	....	....	....	Clear.
	10 32 p. m.	29.14	81	75	28.994	74	70	81	N. W.	6	.18	....	0	0	0	0	0	....	....	....	....	Clear.

Meteorological record for August 12, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.81	58	52	23.74	52	50	86	S.	4	.08	....	0	0	Cir. & cu.	2-4	0	....	....	....	....	Fair.
	2 0 a. m.	23.78	57	52	23.71	52	50	86	S.W.	6	.18	....	Hazy	....	Cir. & cu.	2-4	0	....	....	....	....	Fair.
	3 0 a. m.	23.78	56	52	23.71	52	50	86	S.W.	12	.72	....	0	0	Cirrus	2-4	0	....	....	....	....	Fair.
	4 0 a. m.	23.78	56	53	23.71	53	51	86	S.W.	8	.32	....	0	0	Cir. & cu.	2-4	0	....	....	....	....	Fair.
	5 0 a. m.	23.79	56	52	23.72	52	51	93	S.W.	12	.72	....	Hazy	....	Cir. & cu.	1-4	0	....	....	....	....	Fair.
	6 0 a. m.	23.80	56	52	23.73	52	51	93	S.W.	6	.18	....	Light fog	....	Cumulus	1-4	S.W.	....	....	....	....	Fair.
	7 14 a. m.	23.81	57	54	23.74	54	52	87	S.W.	7	.24	....	Light fog	....	Cumulus	1-4	W.	....	....	....	....	Fair.
	8 0 a. m.	23.82	50	56	23.75	56	53	81	W.	5	.12	....	Light fog	....	Cumulus	2-4	W.	....	....	....	....	Fair.
	9 0 a. m.	23.83	60	60	23.75	60	55	71	N. W.	4	.08	....	Light fog	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	10 0 a. m.	23.84	62	62	23.76	62	57	72	N. W.	6	.18	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	11 0 a. m.	23.84	63	63	23.76	63	57	67	N. W.	5	.12	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	12 0 m.	23.83	68	67	23.74	67	61	69	W.	4	.08	132	Hazy	....	Cumulus	3-4	W.	....	....	....	....	Cloudy.
Base of Mount Mitchell, N. C.	1 0 a. m.	27.47	66	58	27.36	58	57	94	0	0	0	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 a. m.	27.47	65	57	27.36	57	56	94	0	0	0	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 a. m.	27.47	64	58	27.36	58	56	88	0	0	0	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 0 a. m.	27.46	64	58	27.35	58	57	94	0	0	0	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 a. m.	27.48	65	60	27.37	60	58	88	0	0	0	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 a. m.	27.48	64	61	27.37	61	60	94	0	0	0	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 14 a. m.	27.48	67	69	27.36	60	64	75	0	0	0	....	Stratus	1-4	Cirrus	1-4	N. W.	....	....	....	....	Fair.
	8 0 a. m.	27.49	70	74	27.37	74	68	72	0	0	0	....	0	0	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	9 0 a. m.	27.49	73	76	27.36	76	69	68	0	0	0	....	0	0	Cumulus	1-4	W.	....	....	....	....	Fair.
	10 0 a. m.	27.48	76	79	27.34	79	71	66	E.	1	.01	....	0	0	Cumulus	2-4	W.	....	....	....	....	Fair.
	11 0 a. m.	27.48	78	78	27.34	78	70	65	0	0	0	....	0	0	Cumulus	2-4	W.	....	....	....	....	Fair.
	12 0 m.	27.46	80	76	27.31	76	70	73	E.	1	.01	10	0	0	Cumulus	4-4	W.	....	....	....	....	Cloudy.
Knoxville, Tenn.	7 0 a. m.	29.17	77	73	29.034	72	70	90	S.W.	1	.01	....	Hazy	....	Cirrus	3-4	W.	....	....	....	....	Fair.
	7 7 a. m.	29.17	77	73	29.034	72	70	90	S.W.	1	.01	....	Hazy	....	Cirrus	3-4	W.	....	....	....	....	Fair.
	11 32 a. m.	29.18	86	85	29.021	84	73	56	S.	8	.32	119	0	0	Cumulus	3-4	W.	....	....	....	....	Cloudy.

Meteorological record for August 12, 1873—Continued.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 p. m.	23.82	67	66	23.73	66	61	73	W.	8	.32	....	Hazy	....	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	2 0 p. m.	23.81	67	65	23.72	65	61	78	W.	2	.02	...	Hazy	....	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	3 0 p. m.	23.80	68	63	23.71	63	59	78	W.	4	.08	....	Hazy	....	Cumulus	4-4	W.	....	....	....	....	Cloudy; distant thunder-storm in S. W.
	4 14 p. m.	23.79	63	61	23.71	61	59	88	W.	3	.04	....	Light fog	....	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	5 0 p. m.	23.78	63	59	23.70	59	57	87	N. W.	3	.04	....	Hazy	....	Cumulus	4-4	N. W.	....	....	....	....	Cloudy; distant thunder-storm in N. W.
	6 0 p. m.	23.78	65	60	23.69	60	58	88	W.	4	.08	....	Hazy	....	Cir. & cu.	3-4	W.	....	....	....	....	Cloudy; distant thunder-storm in N. E.
	7 0 p. m.	23.77	61	58	23.69	58	57	94	S. W.	4	.08	....	Hazy	....	Cumulus	4-4	S. W.	....	....	....	....	Cloudy.
	8 0 p. m.	23.77	65	57	23.68	57	56	94	N. W.	3	.04	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 p. m.	23.78	64	57	23.70	57	56	94	N. W.	4	.08	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 p. m.	23.78	64	56	23.70	56	56	100	N. W.	4	.08	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 39 p. m.	23.78	64	56	23.70	56	55.5	97	W.	5	.12	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 p. m.	23.77	63	56	23.69	56	55.5	97	N. W.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
Base of Mount Mitchell, N. C.	1 0 p. m.	27.45	79	77	27.30	77	70	69	E.	4	.08	....	0	0	Cumulus	3-4	W.	....	....	....	....	Fair.
	2 0 p. m.	27.44	81	78	27.29	78	69	61	0	0	0	....	0	0	Cumulus	2-4	W.	....	....	....	....	Fair.
	3 0 p. m.	27.43	81	75	27.28	75	70	77	E.	4	.08	....	0	0	Cumulus	1-4	W.	....	....	....	....	Fair.
	4 14 p. m.	27.43	79	70	27.28	70	68	90	0	0	0	....	Nimbus	4-4	Hidden	....	....	3.55 p. m.	....	.08	....	Light rain.
	5 0 p. m.	27.44	77	69	27.30	69	66	85	0	0	0	....	Stratus	4-4	Hidden	....	....	....	4.30 p. m.	.01	....	Cloudy.
	6 0 p. m.	27.43	75	68	27.29	68	66	89	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	7 0 p. m.	27.43	74	65	27.30	65	64	94	0	0	0	....	Stratus	1-4	0	0	0	....	....	....	....	Fair.
	8 0 p. m.	27.44	73	66	27.31	66	64	89	0	0	0	....	Stratus	3-4	0	0	0	....	....	....	...	Fair.
	9 0 p. m.	27.44	72	65	27.31	65	64	89	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	10 0 p. m.	27.43	71	65	27.30	65	64	94	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	10 39 p. m.	27.42	72	65	27.29	65	63	89	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	12 0 p. m.	27.41	70	64	27.29	64	63	94	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
Knoxville, Tenn.	2 0 p. m.	29.15	86	85	28.990	84	73	58	S. W.	9	.40	....	Stratus	3-4	Cumulus	2-4	0	....	....	....	....	Cloudy.
	4 7 p. m.	29.12	86	87	28.961	86	74	53	N. W.	8	.32	....	0	0	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	9 0 p. m.	29.12	82	77	28.972	76	73	86	N. W.	2	.02	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	10 32 p. m.	29.11	81	76	28.964	75	73	90	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.

Meteorological record for August 13, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 76	62	56	23. 68	56	56	100	W.	10	.50	....	Fog.....	......	Hidden.	....	......	12.25 a. m.	12.40 a. m.	.02	....	Foggy.
	2 0 a. m.	23. 75	61	55	23. 67	55	55	100	S. W.	10	.50	....	Fog.....	......	Hidden.	....	......	....	....	....	....	Foggy.
	3 0 a. m.	23. 74	61	55	23. 66	55	55	100	S. W.	12	.72	....	Fog.....	......	Hidden.	....	......	....	....	....	....	Foggy.
	4 0 a. m.	23. 72	60	55	23. 64	55	55	100	S. W.	12	.72	....	Fog.....	......	Hidden.	....	......	....	....	....	....	Foggy.
	5 0 a. m.	23. 71	61	55	23. 63	55	55	100	S. W.	15	1. 12	....	Fog.....	......	Hidden.	....	......	....	....	....	....	Foggy.
	6 0 a. m.	23. 70	62	58	23. 62	58	57	94	S. W.	12	.72	....	Fog.....	......	Hidden.	....	......	....	....	....	....	Foggy.
	7 14 a. m.	23. 69	58	54	23. 62	54	54	100	S. W.	16	1. 28	....	Nimbus.	4-4	Hidden	....	......	6.25 a. m.	....	.24	....	Heavy rain; thunder-storm from N. to S.
	8 0 a. m.	23. 69	56	53	23. 62	53	53	100	S. W.	14	.98	....	Nimbus.	4-4	Hidden.	....	......	....	....	.39	....	Heavy rain.
	9 0 a. m.	23. 69	56	53	23. 62	53	53	100	S. W.	8	.32	....	Nimbus.	4-4	Hidden.	....	......	....	....	.34	....	Heavy rain.
	10 0 a. m.	23. 69	57	53	23. 62	53	53	100	N. W.	11	.60	....	Nimbus.	4-4	Hidden.	....	......	....	....	.32	....	Heavy rain.
	11 0 a. m.	23. 69	56	52	23. 62	52	52	100	N. W.	16	1. 28	....	Nimbus.	4-4	Hidden.	....	......	....	....	.41	....	Heavy rain.
	12 0 m.	23. 68	57	53	23. 61	53	53	100	N. W.	9	.40	183	Nimbus	4-4	Hidden.	....	......	....	....	.03	....	Light rain.
Base of Mount Mitchell, N. C.	1 0 a. m.	27. 38	70	64	27. 26	64	63	94	0	0	0	....	Stratus	4-4	Hidden.	....	......	....	....	....	....	Cloudy.
	2 0 a. m.	27. 37	70	64	27. 25	64	63	94	0	0	0	....	Stratus.	4-4	Hidden.	....	......	....	....	....	....	Cloudy.
	3 0 a. m.	27. 35	69	64	27. 23	64	63	94	0	0	0	....	Stratus.	4-4	Hidden.	....	......	....	....	....	....	Cloudy.
	4 0 a. m.	27. 36	69	64	27. 24	64	63	94	0	0	0	....	Stratus.	4-4	Hidden.	....	......	....	....	....	....	Cloudy.
	5 0 a. m.	27. 36	69	64	27. 24	64	63	94	0	0	0	....	Stratus	4-4	Hidden.	....	......	....	....	....	....	Threatening.
	6 0 a. m.	27. 37	69	64	27. 25	64	63	94	0	0	0	....	Nimbus.	4-4	Hidden.	....	......	5.05 a. m.	....	.28	....	Light rain.
	7 14 a. m.	27. 37	69	65	27. 25	65	64	94	E.	1	.01	....	Nimbus.	4-4	Hidden.	....	......	....	....	.23	....	Heavy rain.
	8 0 a. m.	27. 37	69	65	27. 25	65	63	89	0	0	0	....	Nimbus.	4-4	Hidden.	....	......	....	....	.21	....	Heavy rain.
	9 0 a. m.	27. 37	70	65	27. 25	65	64	94	0	0	0	....	Nimbus.	4-4	Hidden.	....	......	....	....	.16	....	Heavy rain.
	10 0 a. m.	27. 35	70	67	27. 23	67	65	89	0	0	0	....	Stratus.	4-4	Hidden.	....	......	....	9.30 a. m.	....	....	Cloudy.
	11 0 a. m.	27. 36	70	67	27. 24	67	65	89	N. E.	1	.01	....	Nimbus.	4-4	Hidden.	....	......	10.55 a. m.	....	.06	....	Heavy rain.
	12 0 m.	27. 34	72	71	27. 21	71	66	75	N. E.	1	.01	6	Stratus.	4-4	Hidden.	....	......	....	11.10 a. m.	....	....	Cloudy.
Knoxville, Tenn.	7 0 a. m.	29. 08	77	72	28. 944	71	69	90	N.	6	.18	....	Stratus.	4-4	Hidden.	....	......	....	....	....	....	Cloudy.
	7 7 a. m.	29. 06	77	72	28. 944	71	69	90	N.	6	.18	....	Stratus.	4-4	Hidden.	....	......	In night.	7.15 a. m.	.17	....	Cloudy.
	11 32 a. m.	29. 04	80	77	28. 937	76	71	76	S. W.	3	.04	121	Stratus.	4-4	Hidden.	....	......	....	....	....	....	Cloudy.

Meteorological record for August 13, 1873—Continued.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction moving from—	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 p. m.	23.67	60	53	23.59	53	53	100	N. E.	8	.32	....	Nimbus	4-4	Hidden	....	....	....	....	.12	....	Heavy rain.
	2 0 p. m.	23.65	58	53	23.58	53	53	100	N. W.	12	.72	....	Fog	....	Hidden	....	....	....	1.15 p. m.	.03	....	Foggy.
	3 0 p. m.	23.64	58	52	23.57	52	52	100	N. W.	12	.72	....	Light fog	....	Cirrus	2-4	0	....	....	....	....	Clearing up.
	4 14 p. m.	23.64	59	54	23.57	54	53	93	N. W.	8	.32	....	Hazy	....	Cir. & cu.	2-4	N. W.	....	....	....	....	Fair.
	5 0 p. m.	23.64	59	54	23.57	54	53	93	N. W.	8	.32	....	Hazy	....	Cir. & cu.	3-4	N. W.	....	....	....	....	Cloudy.
	6 0 p. m.	23.66	57	53	23.59	53	52	93	N. W.	12	.72	....	Light fog	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	7 0 p. m.	23.67	60	52	23.59	52	51	93	N. W.	12	.72	....	Fog	....	Cirrus	1-4	0	....	....	....	....	Foggy.
	8 0 p. m.	23.67	60	51	23.59	51	51	100	N. W.	14	.98	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 p. m.	23.68	58	51	23.61	51	51	100	N. W.	10	.50	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 p. m.	23.68	59	51	23.61	51	51	100	N. W.	15	1.12	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 39 p. m.	23.66	61	50	23.58	50	50	100	N. W.	14	.98	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 p. m.	23.65	63	48	23.57	48	48	100	N. W.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
Base of Mount Mitchell, N. C.	1 0 p. m.	27.32	72	72	27.19	72	65	67	N. E.	1	.01	....	Stratus	3-4	Hazy	....	....	....	....	....	....	Cloudy.
	2 0 p. m.	27.32	75	73	27.18	73	66	67	N. E.	1	.01	....	0	0	Cirrus	3-4	S. W.	....	....	....	....	Fair.
	3 0 p. m.	27.31	74	72	27.18	72	68	80	0	0	0	....	0	0	Cirrus	3-4	S. W.	....	....	....	....	Fair.
	4 14 p. m.	27.32	74	69	27.19	69	65	80	N. E.	1	.01	....	Stratus	2-4	Cirrus	2-4	0	....	....	....	....	Cloudy.
	5 0 p. m.	27.33	74	67	27.20	67	65	89	0	0	0	....	Stratus	1-4	Cumulus	1-4	W.	....	....	....	....	Fair.
	6 0 p. m.	27.34	72	64	27.21	64	63	94	0	0	0	....	0	0	Cumulus	1-4	0	....	....	....	....	Clear.
	7 0 p. m.	27.35	70	61	27.23	61	60	94	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	8 0 p. m.	27.35	69	60	27.23	60	59	94	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	9 0 p. m.	27.34	68	58	27.22	58	57	94	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	10 0 p. m.	27.33	66	58	27.22	58	57	94	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	10 39 p. m.	27.33	66	57	27.22	57	56	94	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	12 0 p. m.	27.31	64	55	27.20	55	54	93	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
Knoxville, Tenn.	2 0 p. m.	29.05	78	77	28.912	76	69	69	E.	4	.08	....	Stratus	2-4	Cumulus	1-4	N. E.	....	....	....	....	Clearing.
	4 7 p. m.	29.04	82	85	28.892	84	72	53	W.	7	.24	....	0	0	Cumulus	2-4	N. E.	8.00 a. m.	9.00 a. m.	.04	....	Fair.
	9 0 p. m.	29.08	79	73	28.939	72	68	80	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	10 32 p. m.	29.07	77	71	28.934	70	66	79	N.	8	.32	....	0	0	0	0	0	....	....	....	....	Clear.

Meteorological record for August 14, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 64	62	48	23. 56	48	48	100	N. W.	8	.32	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	2 0 a. m.	23. 63	62	47	23. 55	47	47	100	N. W.	8	.32	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	3 0 a. m.	23. 63	64	46	23. 55	46	46	100	N. W.	6	.24	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	4 0 a. m.	23. 62	61	45	23. 54	45	44	92	N. W.	8	.32	....	Light fog	....	Cumulus	1-4	0	....	....	....	....	Fair.
	5 0 a. m.	23. 61	60	46	23. 53	46	45. 5	96	N. W.	8	.32	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	6 0 a. m.	23. 61	59	46	23. 54	46	46	100	N. W.	10	.50	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	7 14 a. m.	23. 62	57	46	23. 55	46	45	92	N. W.	9	.40	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	8 0 a. m.	23. 62	56	46	23, 55	46	46	100	N. W.	11	.60	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	9 0 a. m.	23. 63	56	46	23. 56	46	46	100	N. W.	8	.32	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	10 0 a. m.	23. 63	56	46	23. 56	46	46	100	N. W.	8	.32	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	11 0 a. m.	23. 62	57	47	23. 55	47	47	100	N. W.	8	.32	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	12 0 m ..	23. 61	59	48	23. 54	48	47	93	N. W.	10	.50	239	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
Base of Mount Mitchell, N. C.	1 0 a. m.	27. 31	62	53	27. 21	53	52	93	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	2 0 a. m.	27. 30	61	52	27. 20	52	51	93	0	0	0	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	3 0 a. m.	27. 30	59	51	27. 20	51	50	93	0	0	0	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	4 0 a. m.	27. 31	58	51	27. 22	51	50	93	N. E.	1	.01	....	0	0	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	5 0 a. m.	27. 30	57	53	27. 21	53	52	93	N. E.	1	.01	....	Stratus	3-4	Hazy	....	......	....	....	....	....	Cloudy.
	6 0 a. m.	27. 31	58	58	27. 22	58	56	88	N. E.	1	.01	....	Stratus	3-4	0	0	0	....	....	....	....	Fair.
	7 14 a. m.	27. 30	61	70	27. 20	70	65	75	N. E.	1	.01	....	0	0	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	8 0 a. m.	27. 31	65	67	27. 20	67	61	69	N. E.	1	.01	....	Stratus	4-4	Hidden	....	......	....	....	....	....	Cloudy.
	9 0 a. m.	27. 31	67	68	27. 19	68	60	60	N. E.	4	.08	....	Stratus	2-4	Cumulus	2-4	N. W.	....	....	....	....	Cloudy.
	10 0 a. m.	27. 31	68	68	27. 19	68	61	65	N. E.	1	.01	....	Stratus	2-4	Cumulus	2-4	N. W.	....	....	....	....	Cloudy.
	11 0 a. m.	27. 30	69	67	27. 18	67	60	64	N. E.	1	.01	....	0	0	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	12 0 m ..	27. 29	71	70	27. 17	70	62	61	N. E.	1	.01	12	Hazy	....	Cumulus	1-4	N. W.	....	....	....	....	Fair.
Knoxville, Tenn.	7 0 a. m.	29. 07	74	66	28. 942	65	62	83	N.	3	.04	....	Hazy	....	0	0	0	....	....	....	....	Fair.
	7 7 a. m.	29. 07	74	66	28. 942	65	62	83	N.	3	.04	....	Hazy	....	0	0	0	....	....	....	....	Fair.
	11 32 a. m.	29. 07	76	75	28. 937	74	62	47	N.	12	.72	123	0	0	Cumulus	2-4	N.	....	....	....	....	Fair.

Meteorological record for August 14, 1873—Continued.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'en'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 p. m.	23.61	62	52	23.53	52	51	93	W.	8	.32	....	Hazy	....	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	2 0 p. m.	23.60	61	51	23.52	51	50	93	N. W.	12	.72	....	Light fog	....	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	3 0 p. m.	23.60	59	52	23.53	52	50	86	N. W.	8	.32	....	Hazy	....	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	4 14 p. m.	23.59	59	50	23.52	50	49	93	N. W.	14	.98	....	Hazy	....	Cir. & cu.	4-4	N. W.	....	....	....	....	Cloudy.
	5 0 p. m.	23.59	59	48	23.52	48	47	93	W.	16	1.28	....	Hazy	....	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	6 0 p. m.	23.60	58	47	23.53	47	47	100	W.	16	1.28	....	Fog	....	Hidden .	....	....	....	....	....	....	Foggy.
	7 0 p. m.	23.60	57	46	23.53	46	46	100	W.	16	1.28	....	Fog	....	Hidden .	....	....	....	....	....	....	Foggy.
	8 0 p. m.	23.60	58	46	23.53	46	46	100	W.	16	1.28	....	Fog	....	Hidden .	....	....	....	....	....	....	Foggy.
	9 0 p. m.	23.60	60	46	23.53	46	46	100	N. W.	16	1.28	....	Fog	....	Hidden .	....	....	....	....	....	....	Foggy.
	10 0 p. m.	23.61	59	45	23.54	45	45	100	N. W.	14	.98	....	Fog	....	Hidden .	....	....	....	....	....	....	Foggy.
	10 39 p. m.	23.62	58	44	23.55	44	44	100	N. W.	14	.98	....	Light fog.	....	0	0	0	....	....	....	....	Fair.
	12 0 p. m.	23.60	58	44	23.53	44	44	100	N. W.	12	.72	....	Light fog.	....	0	0	0	....	....	....	....	Fair.
Base of Mount Mitchell, N. C.	1 0 p. m.	27.29	72	70	27.16	70	62	61	N.	1	.01	....	Hazy	....	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	2 0 p. m.	27.29	73	70	27.16	70	62	61	N.	4	.08	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	3 0 p. m.	27.29	72	65	27.16	65	59	68	N.	4	.08	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	4 14 p. m.	27.29	70	64	27.17	64	61	84	0	0	0	....	Hazy	....	Cumulus	4-4	N. W.	....	....	....	....	Cloudy.
	5 0 p. m.	27.20	70	63	27.17	63	59	78	0	0	0	....	Stratus ...	3-4	Cumulus	1-4	N. W.	....	....	....	....	Cloudy.
	6 0 p. m.	27.29	68	62	27.17	62	57	72	N. E.	1	.01	....	Stratus ...	3-4	Cumulus	1-4	N. E.	....	....	....	....	Cloudy.
	7 0 p. m.	27.30	67	57	27.18	57	55	88	0	0	0	....	Stratus ...	1-4	0	0	0	....	....	....	....	Fair.
	8 0 p. m.	27.30	66	61	27.20	61	56	71	0	0	0	....	Stratus ...	1-4	0	0	0	....	....	....	....	Fair.
	9 0 p. m.	27.29	66	58	27.18	58	56	88	N.	1	.01	....	0	0	0	0	0	....	....	....	....	Clear.
	10 0 p. m.	27.28	64	57	27.17	57	55	87	N.	1	.01	....	Stratus ...	1-4	0	0	0	....	....	....	....	Clear.
	10 39 p. m.	27.27	64	59	27.16	59	56	83	0	0	0	....	0	0	Cumulus	3-4	N.	....	....	....	....	Cloudy.
	12 0 p. m.	27.26	63	57	27.15	57	55	87	N.	1	.01	....	0	0	Cumulus	1-4	N.	....	....	....	....	Fair.
Knoxville, Tenn.	2 0 p. m.	29.06	77	78	28.924	77	64	46	N. W.	16	1.28	....	0	0	Cumulus	4-4	N.	....	....	....	....	Cloudy.
	4 7 p. m.	29.04	77	77	28.904	76	63	45	N.	12	.72	....	0	0	Cumulus	3-4	N.	....	....	....	....	Cloudy.
	9 0 p. m.	29.03	75	71	28.900	70	63	66	N.	3	.04	....	0	0	0.	0	0	....	....	....	....	Clear.
	10 32 p. m.	29.04	73	67	28.915	66	63	84	N.	2	.02	....	0	0	0	0	0	....	....	....	....	Clear.

Meteorological record for August 15, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.60	57	45	23.53	45	45	100	N. W.	10	.50	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 a. m.	23.60	56	45	23.53	45	45	100	N. W.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 a. m.	23.59	56	44	23.52	44	44	100	N. W.	14	.98	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 0 a. m.	23.58	56	43	23.51	43	43	100	N. W.	14	.98	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 a. m.	23.58	57	43	23.51	43	43	100	N. W.	18	1.62	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 a. m.	23.58	57	44	23.51	44	44	100	N. W.	15	1.12	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 14 a. m.	23.59	57	45	23.52	45	45	100	N. W.	10	.50	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 a. m.	23.60	58	47	23.53	47	47	100	N. W.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 a. m.	23.60	58	48	23.53	48	48	100	N. W.	8	.32	....	Fog	....	Hidden	....	....	8.30 a. m.	8.50 a. m.	.04	....	Foggy.
	10 0 a. m.	23.62	64	49	23.54	49	49	100	N. W.	4	.08	....	Nimbus	....	Hidden	....	....	9.50 a. m.	....	.01	....	Light rain.
	11 0 a. m.	23.62	61	51	23.54	51	51	100	N. W.	2	.02	....	Fog	4-4	Hidden	....	....	....	10.10 a. m.	.01	....	Foggy.
	12 0 m ..	23.63	63	53	23.55	53	52.5	96	N. W.	3	.04	280	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
Base of Mount Mitchell, N. C.	1 0 a. m.	27.26	63	56	27.15	56	54	87	0	0	0	....	Stratus	....	Cumulus	1-4	0	....	....	....	....	Fair.
	2 0 a. m.	27.25	62	57	27.15	57	55	87	N.	4	.08	....	Stratus	2-4	Hidden	....	....	....	....	....	....	Cloudy.
	3 0 a. m.	27.26	62	59	27.16	59	57	88	N.	1	.01	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	4 0 a. m.	27.27	63	60	27.16	60	58	88	0	0	0	....	Stratus	4-4	Cumulus	1-4	0	....	....	....	....	Light rain.
	5 0 a. m.	27.30	63	61	27.19	61	59	88	N.	2	.02	....	Stratus	2-4	Hidden	....	....	....	....	....	....	Cloudy.
	6 0 a. m.	27.30	64	63	27.19	63	61	89	N.	1	.01	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	7 14 a. m.	27.33	66	64	27.22	64	61	83	N.	1	.01	....	Nimbus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	8 0 a. m.	27.32	66	64	27.22	64	61	83	N.	1	.01	....	Stratus	4-4	Hidden	....	....	7.10 a. m.	....	....	....	Cloudy.
	9 0 a. m.	27.31	68	67	27.19	67	62	74	N.	1	.01	....	Stratus	4-4	Hidden	....	....	....	7.38 a. m.	.02	....	Cloudy.
	10 0 a. m.	27.30	69	67	27.18	67	62	74	N.	1	.01	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Fair.
	11 0 a. m.	27.30	69	67	27.18	67	62	74	N.	1	.01	....	Stratus	2-4	Cumulus	2-4	W.	....	....	....	....	Fair.
	12 0 m ..	27.30	69	67	27.18	67	62	74	N.	1	.01	....	0	0	Cumulus	4-4	W.	....	....	....	....	Fair.
Knoxville, Tenn.	7 0 a. m.	29.04	71	67	28.920	66	63	84	N.	3	.04	....	Fog	....	Cumulus	1-4	N. E.	....	....	....	....	Fair.
	7 7 a. m.	29.04	71	67	28.920	66	63	84	N.	3	.04	....	Fog	....	Cumulus	1-4	N. E.	....	....	....	....	Fair.
	11 32 a. m.	29.05	76	76	28.917	75	65	56	S.	3	.04	127	0	0	Cumulus	3-4	N. E.	....	....	....	....	Cloudy.

Meteorological record for August 1[illegible], 18[illegible]—Continued.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 p. m.	23.63	63	55	23.55	55	54	93	S. W.	4	.08	....	Hazy	....	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	2 0 p. m.	23.63	64	58	23.55	58	57	94	S. W.	4	.08	....	Hazy	....	Cumulus	3-4	S. W.	....	....	....	....	Cloudy.
	3 0 p. m.	23.65	65	59	23.56	59	58	94	S. W.	4	.08	....	Hazy	....	Cumulus	3-4	S. W.	....	....	....	....	Cloudy.
	4 14 p. m.	23.64	64	57	23.56	57	56	91	W.	8	.32	....	Hazy	....	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	5 0 p. m.	23.63	65	55	23.54	55	54	93	W.	6	.18	....	Hazy	....	Cir. & cu	3-4	W.	....	....	....	....	Cloudy.
	6 0 p. m.	23.63	63	53	23.55	53	52	93	W.	10	.50	....	Hazy	....	Cirrus	2-4	0	....	....	....	....	Fair.
	7 0 p. m.	23.64	62	50	23.56	50	49	93	W.	8	.32	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	8 0 p. m.	23.64	63	48	23.56	48	47	93	W.	8	.32	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	9 0 p. m.	23.64	62	48	23.56	48	47	93	W.	6	.18	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	10 0 p. m.	23.65	63	48	23.57	48	47	93	S. W.	8	.32	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	10 39 p. m.	23.66	62	48	23.58	48	46	85	N. W.	8	.32	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	12 0 p. m.	23.65	62	49	23.57	49	48	93	W.	8	.32	....	Light fog	....	Cirrus	1-4	0	....	....	....	....	Fair.
Base of Mount Mitchell, N. C.	1 0 p. m.	27.30	70	69	27.18	69	62	65	N.	4	.08	....	Stratus	1-4	Cumulus	2-4	W.	....	....	....	....	Fair.
	2 0 p. m.	27.29	71	72	27.17	72	65	69	N.	1	.01	....	0	0	Cumulus	2-4	W.	....	....	....	....	Fair.
	3 0 p. m.	27.30	75	71	27.16	71	64	66	N.	1	.01	....	0	0	Cumulus	3-4	W.	....	....	....	....	Fair.
	4 14 p. m.	27.30	74	69	27.17	69	64	75	N.	1	.01	....	0	0	Cumulus	3-4	W.	....	....	....	....	Fair.
	5 0 p. m.	27.32	73	68	27.19	68	64	79	0	0	0	....	0	0	Cumulus	3-4	N.	....	....	....	....	Fair.
	6 0 p. m.	27.30	73	68	27.17	68	64	79	0	0	0	....	0	0	Cumulus	3-4	N. W.	....	....	....	....	Fair.
	7 0 p. m.	27.31	71	64	27.18	64	62	89	0	0	0	....	Hazy	....	Hazy	....	....	....	....	....	....	Clear.
	8 0 p. m.	27.32	69	60	27.20	60	59	94	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	9 0 p. m.	27.34	67	57	27.22	57	56	94	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	10 0 p. m.	27.33	66	56	27.22	56	55	93	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	10 39 p. m.	27.34	65	55	27.23	55	53	87	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	12 0 p. m.	27.34	63	53	27.23	53	52	93	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
Knoxville, Tenn.	2 0 p. m.	29.03	78	79	28.892	78	66	51	W.	3	.04	....	0	0	Cumulus	2-4	N. E.	....	....	....	....	Fair.
	4 7 p. m.	29.02	80	82	28.877	81	67	44	W.	9	.40	....	0	0	Cumulus	2-4	N. E.	....	....	....	....	Fair.
	9 0 p. m.	29.01	77	71	28.874	70	67	83	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	10 32 p. m.	29.01	75	69	28.880	68	66	90	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.

Meteorological record for August 16, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 66	62	48	23. 58	48	47	93	S. W.	12	. 72	....	0	0	Cirrus ..	2-4	0	....	....	....	....	Fair.
	2 0 a. m.	23. 65	62	47	23. 57	47	46	92	S. W.	12	. 72	....	Light fog .	....	Cirrus ..	2-4	0	....	....	....	....	Fair.
	3 0 a. m.	23. 64	60	48	23. 57	48	47	93	S. W.	14	. 98	....	Light fog .	....	Cirrus ..	2-4	0	....	....	....	....	Fair.
	4 0 a. m.	23. 63	59	48	23. 56	48	47	93	S. W.	10	. 50	....	Hazy	....	Cumulus	1-4	W.	....	....	....	....	Fair.
	5 0 a. m.	23. 65	60	48	23. 58	48	47	93	W.	12	. 72	....	Light fog .	....	Cir. & cu	3-4	S. W.	....	....	....	....	Cloudy.
	6 0 a. m.	23. 66	60	48	23. 59	48	47	93	S. W.	10	. 50	....	Light fog .	....	Cumulus	2-4	S. W.	....	....	....	....	Fair.
	7 14 a. m.	23. 67	58	52	23. 61	52	50	86	S. W.	8	. 32	....	Hazy	....	Cumulus	1-4	W.	....	....	....	....	Fair.
	8 0 a. m.	23. 69	58	55	23. 62	55	53	87	S. W.	12	. 72	...	Hazy	....	Cumulus	1-4	W.	....	....	....	....	Fair.
	9 0 a. m.	23. 71	58	57	23. 64	57	55	87	S. W.	10	. 50	....	Hazy	....	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	10 0 a. m.	23. 72	60	60	23. 64	60	56	77	S. W.	9	. 40	....	Hazy	....	Cumulus	3-4	S. W.	....	....	....	....	Cloudy.
	11 0 a. m.	23. 73	61	59	23. 65	59	56	82	S. W.	6	. 18	....	Hazy	....	Cumulus	3-4	S. W.	....	....	....	....	Cloudy.
	12 0 m.	23. 73	64	62	23. 65	62	58	77	S. W.	5	. 12	203	Hazy	....	Cumulus	4-4	S. W.	....	....	....	....	Cloudy.
Base of Mount Mitchell, N. C.	1 0 a. m.	27. 33	62	53	27. 23	53	52	93	0	0	0	....	Fog.......	....	Hidden .	....	......	....	....	....	....	Foggy.
	2 0 a. m.	27. 32	61	53	27. 22	53	52	93	0	0	0	....	Fog.......	....	Hidden .	....	......	....	....	....	....	Foggy.
	3 0 a. m.	27. 32	60	53	27. 22	53	51	86	0	0	0	....	Fog.......	....	Hidden .	....	......	....	....	....	....	Foggy.
	4 0 a. m.	27. 31	59	51	27, 21	51	49	86	0	0	0	....	Fog.......	....	Hidden .	....	......	....	....	....	....	Foggy.
	5 0 a. m.	27. 32	58	50	27. 23	50	49	93	0	0	0	....	Fog.......	....	Cumulus	1-4	W.	....	....	....	....	Foggy.
	6 0 a. m.	27. 33	57	49	27. 24	49	48	93	0	0	0	....	Hazy	....	Cumulus	2-4	W.	....	....	....	....	Fair.
	7 14 a. m.	27. 34	57	56	27. 25	56	54	87	0	0	0	....	0	0	Cumulus	1-4	W.	....	....	....	....	Clear.
	8 0 a. m.	27. 35	59	62	27. 25	62	59	83	0	0	0	....	0	0	Cumulus	1-4	W.	....	....	....	....	Clear.
	9 0 a. m.	27. 37	63	71	27. 26	71	64	66	N.	1	. 01	....	0	0	Cumulus	2-4	W.	....	....	....	....	Fair.
	10 0 a. m.	27. 38	68	73	27. 26	73	66	67	0	0	0	....	0	0	Cumulus	1-4	W.	....	....	....	....	Fair.
	11 0 a. m.	27. 38	72	75	27. 25	75	68	68	0	0	0	....	Hazy	....	Cumulus	1-4	W.	....	....	....	....	Fair.
	12 0 m.	27. 39	75	73	27. 25	73	67	72	N.	1	. 01	7	Hazy	....	Cumulus	2-4	W.	....	....	....	....	Fair.
Knoxville, Tenn.	7 0 a. m.	29. 06	71	66	28. 940	65	62	83	S.	2	. 02	....	0	0	Cirrus ..	1-4	0	....	....	....	....	Fair.
	7 7 a. m.	29. 06	71	66	28. 940	65	62	83	S.	2	. 02	....	0	0	Cirrus ..	1-4	0	....	....	....	....	Fair.
	11 32 a. m.	29. 10	78	79	28. 962	78	69	61	S.	3	. 04	73	0	0	Cumulus	4-4	0	....	....	....	....	Cloudy.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 p. m.	23.73	65	60	23.64	60	56	77	S.W.	4	.08		Hazy		Cumulus	4-4	S.W.					Cloudy.
	2 0 p. m.	23.73	63	62	23.65	62	57	72	S.W.	4	.08		Hazy		Cumulus	3-4	S.W.					Cloudy.
	3 0 p. m.	23.72	64	59	23.64	59	57	88	S.W.	4	.08		Hazy		Cumulus	4-4	S.W.					Cloudy.
	4 14 p. m.	23.71	64	56	23.63	56	54	87	N. W.	1	.01		Hazy		Cumulus	4-4	W.	3.10 p. m.	4.03 p. m.	.02		Cloudy.
	5 0 p. m.	23.73	65	56	23.64	56	55	93	W.	2	.02		Light fog		Cumulus	4-4	W.					Cloudy.
	6 0 p. m.	23.72	62	56	23.64	56	55	93	S.W.	2	.02		Fog		Hidden							Foggy.
	7 0 p. m.	23.74	66	54	23.65	54	54	100	S.W.	8	.32		Fog		Hidden			6.15 p. m.	6.40 p. m.	.02		Foggy.
	8 0 p. m.	23.75	65	53	23.66	53	53	100	S.W.	10	.50		Fog		Hidden							Foggy.
	9 0 p. m.	23.76	67	54	23.67	54	54	100	S.W.	8	.32		Fog		Hidden							Foggy.
	10 0 p. m.	23.77	66	54	23.68	54	54	100	S.W.	8	.32		Fog		Hidden							Foggy.
	10 39 p. m.	23.76	66	53	23.67	53	53	100	S.W.	8	.32		Fog		Hidden							Foggy.
	12 0 p. m.	23.75	65	53	23.67	53	53	100	W.	8	.32		Fog		Hidden							Foggy.
Base of Mount Mitchell, N. C.	1 0 p. m.	27.38	75	75	27.24	75	63	68	N.	1	.01		Hazy		Cumulus	3-4	W.					Fair.
	2 0 p. m.	27.38	74	72	27.25	72	66	71	N.	1	.01		Hazy		Cumulus	4-4	W.					Cloudy.
	3 0 p. m.	27.37	75	73	27.23	73	66	67	0	0	0		Hazy		Cumulus	4-4	W.					Cloudy.
	4 14 p. m.	27.34	75	72	27.20	72	68	80	0	0	0		Stratus	4-4	Hidden							Cloudy.
	5 0 p. m.	27.30	75	70	27.16	70	66	71	N.	4	.08		Stratus	4-4	Hidden							Cloudy.
	6 0 p. m.	27.30	74	68	27.26	68	66	89	0	0	0		Stratus	4-4	Hidden							Cloudy.
	7 0 p. m.	27.40	73	66	27.27	66	65	94	0	0	0		Nimbus	4-4	Hidden			6.55 a. m.				Light rain.
	8 0 p. m.	27.41	72	65	27.28	65	63	89	0	0	0		Stratus	4-4	Hidden				7.10 p. m.	Blk		Cloudy.
	9 0 p. m.	27.43	71	64	27.30	64	63	94	0	0	0		Stratus	4-4	Hidden							Cloudy.
	10 0 p. m.	27.43	71	64	27.30	64	63	94	0	0	0		Stratus	3-4	Hidden							Cloudy.
	10 39 p. m.	27.43	71	64	27.30	64	63	94	0	0	0		Stratus	3-4	Hidden							Cloudy.
	12 0 p. m.	27.42	70	63	27.30	63	62	94	0	0	0		Stratus	4-4	Hidden							Cloudy.
Knoxville, Tenn.	2 0 p. m.	29.07	79	81	28.929	80	70	58	W.	3	.04		0	0	Cumulus	4-4	0					Cloudy.
	4 7 p. m.	29.07	81	83	28.924	82	69	49	W.	8	.32		0	0	Cumulus	4-4	0					Cloudy.
	9 0 p. m.	29.08	76	73	28.947	72	69	85	N.	3	.04		Stratus	4-4	Hidden							Cloudy.
	10 32 p. m.	29.08	74	73	28.952	72	68	80	N.	2	.02		Stratus	4-4	Hidden							Cloudy.

Meteorological record for August 17, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM. Attached.	THERM. Exposed.	Corrected barometer.	HYGROM. Dry bulb.	HYGROM. Wet bulb.	Relative humidity.	WIND. Direction.	WIND. Velocity per hour.	WIND. Pressure per sq. ft.	WIND. Daily velocity.	LOWER CLOUDS. Kind.	LOWER CLOUDS. Amount.	UPPER CLOUDS. Kind.	UPPER CLOUDS. Amount.	UPPER CLOUDS. Direction, (moving from—)	RAIN OR SNOW. Commen'd.	RAIN OR SNOW. Ended.	Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.74	64	52	23.66	52	52	100	S.	10	.50		Fog		Hidden							Foggy.
	2 0 a. m.	23.74	63	53	23.66	53	53	100	S.	8	.32		Fog		Hidden							Foggy.
	3 0 a. m.	23.74	63	53	23.66	53	53	100	S. E.	9	.40		Fog		Hidden							Foggy.
	4 0 a. m.	23.75	63	53	23.67	53	53	100	E.	6	.18		Fog		Hidden							Foggy.
	5 0 a. m.	23.75	62	53	23.67	53	53	100	S. E.	5	.12		Fog		Hidden							Foggy.
	6 0 a. m.	23.76	64	53	23.68	53	53	100	E.	8	.32		Fog		Hidden							Foggy.
	7 14 a. m.	23.78	66	54	23.69	54	54	100	E.	6	.18		Fog		Hidden							Foggy.
	8 0 a. m.	23.80	65	58	23.71	58	57	94	S. E.	6	.18		Fog		Hidden							Foggy.
	9 0 a. m.	23.81	65	56	23.72	56	55	93	S.	5	.12		Fog		Hidden							Foggy.
	10 0 a. m.	23.81	67	59	23.72	59	57	87	S. W.	4	.08		Fog		Hidden							Foggy.
	11 0 a. m.	23.81	66	57	23.72	57	56	94	S. E.	4	.08		Nimbus	4-4	Hidden			10.53 a. m.		.01		Light rain.
	12 0 m	23.80	66	62	23.71	62	60	88	S.	6	.18	138	Fog		Cumulus	4-4	S.		11.08 a. m.	.01		Cloudy.
Base of Mount Mitchell, N. C.	1 0 a. m.	27.42	70	62	27.30	62	61	94	0	0	0		0	0	Cirrus	2-4	W.					Fair.
	2 0 a. m.	27.42	68	60	27.30	60	59	94	0	0	0		Stratus	2-4	Cir.-cum	2-4	W.					Cloudy.
	3 0 a. m.	27.42	68	60	27.30	60	59	94	0	0	0		Stratus	4-4	Hidden							Cloudy.
	4 0 a. m.	27.41	67	60	27.30	60	59	94	0	0	0		Stratus	3-4	Cir.-cum	1-4	0					Cloudy.
	5 0 a. m.	27.42	66	60	27.31	60	59	94	0	0	0		Stratus	2-4	Cirrus	2-4	0					Fair.
	6 0 a. m.	27.43	65	60	27.32	60	59	94	0	0	0		Stratus	1-4	Cirrus	1-4	0					Fair.
	7 14 a. m.	27.44	66	66	27.33	66	64	89	0	0	0		Stratus	1-4	Cir.-cum	2-4	W.					Fair.
	8 0 a. m.	27.46	68	69	27.34	69	66	85	N.	1	.01		Stratus	1-4	Cir.-cum	2-4	W.					Fair.
	9 0 a. m.	27.46	70	76	27.34	76	68	64	N. E.	2	.02		0	0	Cumulus	3-4	S. W.					Fair.
	10 0 a. m.	27.48	73	74	27.35	74	67	68	0	0	0		0	0	Cumulus	2-4	S.					Fair.
	11 0 a. m.	27.47	75	74	27.33	74	68	72	0	0	0		Nimbus	1-4	Cumulus	3-4	S.	11.00 a. m.				Light rain.
	12 0 m.	27.45	77	77	27.31	77	90	69	S.	4	.08	11	0	0	Cumulus	2-4	S.		11.15 a. m.	Blk		Fair.
Knoxville, Tenn.	7 0 a. m.	29.12	73	72	28.995	71	68	85	N.	2	.02		0	0	0	0	0					Clear.
	7 7 a. m.	29.12	73	72	28.995	71	68	85	N.	2	.02		0	0	0	0	0					Clear.
	11 32 a. m.	29.14	88	85	28.989	84	69	44	S.	8	.32	91	0	0	Cumulus	1-4	S. W.					Fair.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 p. m.	23. 76	67	62	23. 71	62	60	88	S.	5	. 12	....	Fog	..	Hidden	....	....	....	....	....	....	Foggy.
	2 0 p. m.	23. 78	66	58	23. 69	58	58	100	S. E.	4	. 08	....	Nimbus	4-4	Hidden	....	....	1.32 p. m.	....	. 13	....	Heavy rain; thunder-storm in S.
	3 0 p. m.	23. 76	64	58	23. 68	58	58	100	S. W.	8	. 32	....	Nimbus	4-4	Hidden	....	....	....	....	. 10	....	Light rain.
	4 14 p. m.	23. 75	64	61	23. 67	61	60	94	S. W.	12	. 72	....	Light fog	....	Cir. & cu	3-4	S. W.	....	3.25 p. m.	. 06	....	Clearing.
	5 0 p. m.	23. 76	63	60	23. 68	60	59	94	S. W.	10	. 50	....	Light fog	....	Cumulus	4-4	S. W.	....	....	....	....	Cloudy.
	6 0 p. m.	23. 75	62	59	23. 67	59	58	94	S. W.	10	. 50	....	Light fog	....	Cir. & cu	3-4	S. W.	....	....	....	....	Cloudy.
	7 0 p. m.	23. 76	60	55	23. 68	55	54	93	W.	12	. 72	....	0	0	Cumulus	2-4	....	....	....	....	....	Fair; heat-lightn'g.
	8 0 p. m.	23. 78	67	55	23. 69	55	54	93	S. W.	4	. 08	....	Light fog	....	Cumulus	3-4	....	....	....	....	....	Cloudy.
	9 0 p. m.	23. 79	66	55	23. 70	55	55	100	S. W.	5	. 12	....	Nimbus	4-4	Hidden	....	....	8.35 p. m.	....	. 08	....	Light rain.
	10 0 p. m.	23. 79	64	54	23. 71	54	54	100	S.	10	. 50	....	Fog	....	Hidden	....	....	....	9.11 p. m.	. 01	....	Foggy.
	10 39 p. m.	23. 79	64	54	23. 71	54	54	100	S.	16	1. 28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 p. m.	23. 78	62	54	23. 70	54	54	100	S. W.	14	. 98	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
Base of Mount Mitchell, N. C.	1 0 p. m.	27. 45	79	76	27. 30	76	70	73	S.	1	. 01	....	0	0	Cumulus	4-4	S.	....	....	....	....	Cloudy.
	2 0 p. m.	27. 45	77	69	27. 31	69	67	90	S.	1	. 01	....	Nimbus	4-4	Hidden	....	....	1.40 p. m.	....	. 24	....	Light rain.
	3 0 p. m.	27. 41	77	72	27. 27	72	68	82	S.	1	. 01	....	Stratus	3-4	Cumulus	2-4	S.	....	2.45 p. m.	. 04	....	Cloudy.
	4 14 p. m.	27. 41	78	72	27. 27	72	68	80	S.	1	. 01	....	0	0	Cumulus	3-4	S.	....	....	....	....	Cloudy.
	5 0 p. m.	27. 41	77	71	27. 27	71	67	80	0	0	0	....	0	0	Cumulus	3-4	S.	....	....	....	....	Fair.
	6 0 p. m.	27. 42	78	70	27. 28	70	68	90	0	0	0	....	0	0	Cir. & cu	2-4	S.	....	....	....	....	Fair.
	7 0 p. m.	27. 43	75	67	27. 29	67	65	89	0	0	0	....	0	0	Hazy	....	....	....	....	....	....	Fair.
	8 0 p. m.	27. 46	73	65	27. 33	65	64	94	0	0	0	....	Stratus	1-4	0	0	0	....	....	....	....	Fair.
	9 0 p. m.	27. 46	72	64	27. 33	64	63	89	0	0	0	....	Nimbus	1-4	0	0	0	8.38 p. m.	....	....	....	Light rain.
	10 0 p. m.	27. 45	71	64	27. 32	64	63	94	0	0	0	....	0	0	0	0	0	....	9.05 p. m.	Blk	....	Clear.
	10 39 p. m.	27. 45	70	63	27. 33	63	62	94	0	0	0	....	Stratus	1-4	0	0	0	....	....	....	....	Fair.
	12 0 p. m.	27. 44	69	61	27. 33	61	60	94	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
Knoxville, Tenn.	2 0 p. m.	29. 10	84	87	28. 946	86	69	40	S. W.	12	. 72	....	0	0	Cir.-cum	1-4	S. W.	....	....	....	....	Fair.
	4 7 p. m.	29. 07	84	89	28. 916	88	70	37	S. W.	12	. 72	....	0	0	Cir. & cu	1-4	S. W.	....	....	....	....	Fair.
	9 0 p. m.	29. 10	79	77	28. 959	76	69	69	N. E.	8	. 32	....	Stratus	1-4	0	0	0	....	....	....	....	Fair.
	10 32 p. m.	29. 10	80	75	28. 957	74	69	76	N.	3	. 04	....	0	0	0	0	0	....	....	....	....	Clear.

Meteorological record for August 18, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.75	61	55	23.67	55	55	100	S.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 a. m.	23.74	60	53	23.66	53	53	100	S.	16	1.28	....	Fog	....	Hidden	....	....	1.10 a. m.	1.55 a. m.	.23	....	Foggy.
	3 0 a. m.	23.74	60	54	23.66	54	54	100	S.W.	16	1.28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 0 a. m.	23.73	61	53	23.65	53	53	100	S.W.	18	1.62	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 a. m.	23.74	60	53	23.66	53	53	100	S.W.	18	1.62	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 a. m.	23.75	61	54	23.67	54	54	100	S.W.	16	1.28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 14 a. m.	23.76	61	55	23.68	55	54	93	S.W.	13	.84	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 a. m.	23.78	65	57	23.69	57	56	94	S.W.	11	.60	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 a. m.	23.80	65	61	23.71	61	59	88	S.W.	6	.18	....	Light fog	....	Cir. & cu.	3-4	0	....	....	....	....	Cloudy.
	10 0 a. m.	23.81	64	61	23.73	61	59	88	S.W.	7	.24	....	Light fog	....	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	11 0 a. m.	23.80	64	61	23.72	61	59	88	S.W.	4	.08	...	Nimbus	4-4	Hidden	....	....	10.40 a. m.	....	.02	....	Light rain.
	12 0 m	23.78	63	63	23.70	63	60	83	S.W.	6	.18	246	Haze & fog	....	Cumulus	4-4	S.W.	....	11.06 a. m.	.01	....	Cloudy.
Base of Mount Mitchell, N. C.	1 0 a. m.	27.43	68	61	27.31	61	60	94	0	0	0	....	Stratus	2-4	0	0	0	....	....	....	....	Fair.
	2 0 a. m.	27.41	67	62	27.29	62	61	94	0	0	0	....	Nimbus	4-4	Hidden	....	....	1.35 a. m.	....	.23	....	Light rain.
	3 0 a. m.	27.41	67	62	27.29	62	61	94	0	0	0	....	Stratus	3-4	Hidden	....	....	....	2.20 a. m.	.02	....	Cloudy.
	4 0 a. m.	27.42	67	62	27.30	62	61	94	0	0	0	....	Stratus	4-4	Hidden	....	....	4.35 a. m.	....	....	....	Cloudy.
	5 0 a. m.	27.42	67	63	27.30	63	62	94	0	0	0	....	Nimbus	4-4	Hidden	....	....	....	5.10 a. m.	.04	....	Light rain.
	6 0 a. m.	27.44	68	63	27.32	63	62	94	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	7 14 a. m.	27.46	68	62	27.34	62	60	88	0	0	0	....	Stratus	2-4	Cumulus	1-4	W.	....	....	....	....	Fair.
	8 0 a. m.	27.46	70	67	27.32	67	66	95	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	9 0 a. m.	27.46	71	70	27.33	70	67	85	0	0	0	....	Stratus	2-4	Cirrus	1-4	S.W.	....	....	....	....	Cloudy.
	10 0 a. m.	27.46	72	73	27.33	73	68	76	N. E.	4	.08	....	Stratus	1-4	Cumulus	3-4	S.W.	....	....	....	....	Cloudy.
	11 0 a. m.	27.45	73	72	27.32	72	68	80	0	0	0	...	Nimbus	3-4	Cumulus	1-4	S.W.	10.58 a. m.	....	....	....	Light rain.
	12 0 m	27.44	75	75	27.30	75	69	72	S.	1	.01	10	Stratus	1-4	Cumulus	2-4	S.W.	....	11.05 a. m.	B'lk	....	Cloudy.
Knoxville, Tenn.	7 0 a. m.	29.16	76	71	29.027	70	67	85	E.	3	.04	....	0	0	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	7 7 a. m.	29.16	76	71	29.027	70	67	85	E.	3	.04	....	0	0	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	11 32 a. m.	29.18	76	65	29.047	64.5	64	97	N.	20	2.00	152	Nimbus	4-4	Hidden	....	....	....	....	....	....	Heavy rain.

Meteorological record for August 18, 1873—Continued.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 p. m.	23.76	61	62	23.68	62	59	83	S.W.	10	.50	....	Hazy	....	Cumulus	3-4	S.W.	....	....	....	....	Cloudy.
	2 0 p. m.	23.77	64	56	23.69	56	55	94	N.W.	4	.08	....	Nimbus	4-4	Hidden		......	2.00 p. m.	....	....	....	Light rain, thunder-storm.
	3 0 p. m.	23.74	59	50	23.67	50	50	100	N.W.	22	2.42	...	Nimbus	4-4	Hidden	....	......	....	....	.24	....	Light rain.
	4 14 p. m.	23.76	62	52	23.68	52	52	100	W.	12	.72	....	Nimbus	1-4	Cumulus	3-4	0	....	....	.13	....	Light rain.
	5 0 p. m.	23.75	61	52	23.67	52	52	100	W.	12	.72	....	Nimbus	3-4	Cumulus	1-4	0	....	....	.05	....	Light rain.
	6 0 p. m.	23.73	56	52	23.66	52	51	93	W.	8	.32	....	Hazy	....	Cumulus	4-4	0	....	5.15 p. m.	.02	....	Cloudy.
	7 0 p. m.	23.75	63	53	23.68	53	49	73	W.	6	.18	....	0	0	Cumulus	4-4	0	....	....	....	....	Cloudy.
	8 0 p. m.	23.78	64	52	23.70	52	50	86	W.	8	.32	....	0	0	Cumulus	4-4	0	....	....	....	....	Cloudy.
	9 6 p. m.	23.77	67	52	23.68	52	50	86	W.	1	.01	....	0	0	Cirrus	2-4	0	....	....	....	....	Fair.
	10 0 p. m.	23.77	65	52	23.68	52	49	79	W.	2	.02	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	10 39 p. m.	23.78	64	52	23.70	52	49	79	W.	2	.02	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	12 0 p. m.	23.77	65	52	23.68	52	50	86	W.	2	.02	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
Base of Mount Mitchell, N. C.	1 0 p. m.	27.43	76	75	27.29	75	69	72	S.W.	1	.01	....	Stratus	3-4	Cumulus	1-4	S.W.	....	....	....	....	Cloudy.
	2 0 p. m.	27.45	76	69	27.31	69	66	85	N.	4	.08	....	Stratus	4-4	Hidden	....	......	....	....	....	....	Threatening.
	3 0 p. m.	27.42	73	64	27.29	64	63	94	0	0	0	....	Stratus	4-4	Hidden	....	......	2.10 p. m.	....	.54	....	Light rain.
	4 14 p. m.	27.43	72	65	27.30	65	64	94	0	0	0	....	Nimbus	4-4	Hidden	....	......	....	....	.08	....	Light rain.
	5 0 p. m.	27.43	71	65	27.30	65	63	89	0	0	0	....	Nimbus	4-4	Hidden	....	......	....	....	.03	....	Light rain.
	6 0 p. m.	27.42	70	65	27.30	64	63	94	S.	1	.01	....	Stratus	4-4	Hidden	....	......	....	5.34 p. m.	....	....	Cloudy.
	7 0 p. m.	27.44	69	63	27.32	63	62	94	0	0	0	....	Stratus	4-4	Hidden	....	......	....	....	....	....	Cloudy.
	8 0 p. m.	27.45	68	62	27.33	62	61	94	0	0	0	....	Stratus	4-4	Hidden	....	......	....	....	....	....	Cloudy.
	9 0 p. m.	27.44	69	60	27.32	60	60	100	0	0	0	....	Stratus	1-4	0	0	0	....	....	....	....	Fair.
	10 0 p. m.	27.44	67	60	27.32	60	59	94	0	0	0	....	Stratus	4-4	Hidden	....	......	....	....	....	....	Cloudy.
	10 39 p. m.	27.43	67	61	27.31	61	60	94	0	0	0	....	Stratus	4-4	Hidden	....	......	....	....	....	....	Cloudy.
	12 0 p. m.	27.43	67	61	27.31	61	60	94	0	0	0	....	Stratus	4-4	Hidden	....	......	....	....	....	....	Cloudy.
Knoxville, Tenn.	2 0 p. m.	29.12	76	73	28.987	72	69	85	E.	3	.04	....	Stratus	1-4	Cirrus	3-4	W.	....	....	....	....	Clearing.
	4 7 p. m.	29.12	77	75	28.984	74	70	81	E.	8	.32	....	Stratus	1-4	Cirrus	3-4	......	11.45 a.m	1.15 p. m.	.66	....	Cloudy.
	9 0 p. m.	29.10	74	71	28.972	70	68	87	0	0	0	....	Stratus	3-4	Hidden	....	......	....	....	...	....	Cloudy.
	10 32 p. m.	39.11	75	71	28.980	70	69	95	W.	1	.01	....	Stratus	4-4	Hidden	....	......	....	....	....	....	Cloudy.

Meteorological record for August 18, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 75	61	55	23. 67	55	55	100	S.	12	. 72		Fog		Hidden							Foggy.
	2 0 a. m.	23. 74	60	53	23. 66	53	53	100	S.	16	1. 28		Fog		Hidden			1.10 a. m.	1.55 a. m.	. 23		Foggy.
	3 0 a. m.	23. 74	60	54	23. 66	54	54	100	S. W.	16	1. 28		Fog		Hidden							Foggy.
	4 0 a. m.	23. 73	61	53	23. 65	53	53	100	S. W.	18	1. 62		Fog		Hidden							Foggy.
	5 0 a. m.	23. 74	60	53	23. 66	53	53	100	S. W.	18	1. 62		Fog		Hidden							Foggy.
	6 0 a. m.	23. 75	61	54	23. 67	54	54	100	S. W.	16	1. 28		Fog		Hidden							Foggy.
	7 14 a. m.	23. 76	61	55	23. 68	55	54	93	S. W.	13	. 84		Fog		Hidden							Foggy.
	8 0 a. m.	23. 78	65	57	23. 69	57	56	94	S. W.	11	. 60		Fog		Hidden							Foggy.
	9 0 a. m.	23. 80	65	61	23. 71	61	59	88	S. W.	6	. 18		Light fog		Cir. & cu.	3-4	0					Cloudy.
	10 0 a. m.	23. 81	64	61	23. 73	61	59	88	S. W.	7	. 24		Light fog		Cumulus	4-4	W.					Cloudy.
	11 0 a. m.	23. 80	64	61	23. 72	61	59	88	S. W.	4	. 08		Nimbus	4-4	Hidden			10.40 a. m.		. 02		Light rain.
	12 0 m	23. 78	63	63	23. 70	63	60	83	S. W.	6	. 18	246	Haze & fog		Cumulus	4-4	S. W.		11.06 a. m.	. 01		Cloudy.
Base of Mount Mitchell, N. C.	1 0 a. m.	27. 43	68	61	27. 31	61	60	94	0	0	0		Stratus	2-4	0	0	0					Fair.
	2 0 a. m.	27. 41	67	62	27. 29	62	61	94	0	0	0		Nimbus	4-4	Hidden			1.35 a. m.		. 23		Light rain.
	3 0 a. m.	27. 41	67	62	27. 29	62	61	94	0	0	0		Stratus	3-4	Hidden				2.20 a. m.	. 02		Cloudy.
	4 0 a. m.	27. 42	67	62	27. 30	62	61	94	0	0	0		Stratus	4-4	Hidden			4.35 a. m.				Cloudy.
	5 0 a. m.	27. 42	67	63	27. 30	63	62	94	0	0	0		Nimbus	4-4	Hidden				5.10 a. m.	. 04		Light rain.
	6 0 a. m.	27. 44	68	63	27. 32	63	62	94	0	0	0		Stratus	4-4	Hidden							Cloudy.
	7 14 a. m.	27. 46	68	62	27. 34	62	60	88	0	0	0		Stratus	2-4	Cumulus	1-4	W.					Fair.
	8 0 a. m.	27. 46	70	67	27. 32	67	66	95	0	0	0		Stratus	4-4	Hidden							Cloudy.
	9 0 a. m.	27. 46	71	70	27. 33	70	67	85	0	0	0		Stratus	2-4	Cirrus	1-4	S. W.					Cloudy.
	10 0 a. m.	27. 46	72	73	27. 33	73	68	76	N. E.	4	. 08		Stratus	1-4	Cumulus	3-4	S. W.					Cloudy.
	11 0 a. m.	27. 45	73	72	27. 32	72	68	80	0	0	0		Nimbus	3-4	Cumulus	1-4	S. W.	10.58 a. m.				Light rain.
	12 0 m	27. 44	75	75	27. 30	75	69	72	S.	1	. 01	10	Stratus	1-4	Cumulus	2-4	S. W.		11.05 a. m.	B'lk		Cloudy.
Knoxville, Tenn.	7 0 a. m.	29. 16	76	71	29. 027	70	67	85	E.	3	. 04		0	0	Cumulus	4-4	W.					Cloudy.
	7 7 a. m.	20. 16	76	71	29. 027	70	67	85	E.	3	. 04		0	0	Cumulus	4-4	W.					Cloudy.
	11 32 a. m.	29. 18	76	65	29. 047	64. 5	64	97	N.	20	2. 00	152	Nimbus	4-4	Hidden							Heavy rain.

Meteorological record for August 18, 1873—Continued.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 p. m.	23. 76	61	62	23. 68	62	59	83	S.W.	10	.50	....	Hazy	....	Cumulus	3-4	S.W.				....	Cloudy.
	2 0 p. m.	23. 77	64	56	23. 69	56	55	94	N.W.	4	.08	....	Nimbus	4-4	Hidden			2.00 p. m.			....	Light rain, thunder-storm.
	3 0 p. m.	23. 74	59	50	23. 67	50	50	100	N.W.	22	2. 42	...	Nimbus	4-4	Hidden					.24	....	Light rain.
	4 14 p. m.	23. 76	62	52	23. 68	52	52	100	W.	12	.72	....	Nimbus	1-4	Cumulus	3-4	0			.13	....	Light rain.
	5 0 p. m.	23. 75	61	52	23. 67	52	52	100	W.	12	.72	....	Nimbus	3-4	Cumulus	1-4	0			.05	....	Light rain.
	6 0 p. m.	23. 73	56	52	23. 66	52	51	93	W.	8	.32	....	Hazy	....	Cumulus	4-4	0		5.15 p. m.	.02	....	Cloudy.
	7 0 p. m.	23. 75	63	53	23. 68	53	49	73	W.	6	.18	....	0	0	Cumulus	4-4	0				....	Cloudy.
	8 0 p. m.	23. 78	64	52	23. 70	52	50	86	W.	8	.32	....	0	0	Cumulus	4-4	0				....	Cloudy.
	9 0 p. m.	23. 77	67	52	23. 68	52	50	86	W.	1	.01	....	0	0	Cirrus	2-4	0				....	Fair.
	10 0 p. m.	23. 77	65	52	23. 68	52	49	79	W.	2	.02	....	0	0	Cirrus	1-4	0				....	Fair.
	10 39 p. m.	23. 78	64	52	23. 70	52	49	79	W.	2	.02	....	0	0	Cirrus	1-4	0				....	Fair.
	12 0 p. m.	23. 77	65	52	23. 68	52	50	86	W.	2	.02	....	0	0	Cirrus	1-4	0				....	Fair.
Base of Mount Mitchell, N. C.	1 0 p. m.	27. 43	76	75	27. 29	75	69	72	S.W.	1	.01	....	Stratus	3-4	Cumulus	1-4	S.W.				....	Cloudy.
	2 0 p. m.	27. 45	76	69	27. 31	69	66	85	N.	4	.08	....	Stratus	4-4	Hidden						....	Threatening.
	3 0 p. m.	27. 42	73	64	27. 29	64	63	94	0	0	0	....	Stratus	4-4	Hidden			2.10 p. m.		.54	....	Light rain.
	4 14 p. m.	27. 43	72	65	27. 30	65	64	94	0	0	0	....	Nimbus	4-4	Hidden					.08	....	Light rain.
	5 0 p. m.	27. 43	71	65	27. 30	65	63	89	0	0	0	....	Nimbus	4-4	Hidden					.03	....	Light rain.
	6 0 p. m.	27. 42	70	65	27. 30	64	63	94	S.	1	.01	....	Stratus	4-4	Hidden				5.34 p. m.		....	Cloudy.
	7 0 p. m.	27. 44	69	63	27. 32	63	62	94	0	0	0	....	Stratus	4-4	Hidden						....	Cloudy.
	8 0 p. m.	27. 45	68	62	27. 33	62	61	94	0	0	0	....	Stratus	4-4	Hidden						....	Cloudy.
	9 0 p. m.	27. 44	69	60	27. 32	60	60	100	0	0	0	....	Stratus	1-4	0	0	0				....	Fair.
	10 0 p. m,	27. 44	67	60	27. 32	60	59	94	0	0	0	....	Stratus	4-4	Hidden						....	Cloudy.
	10 39 p. m.	27. 43	67	61	27. 31	61	60	94	0	0	0	....	Stratus	4-4	Hidden						....	Cloudy.
	12 0 p. m.	27. 43	67	61	27. 31	61	60	94	0	0	0	....	Stratus	4-4	Hidden						....	Cloudy.
Knoxville, Tenn.	2 0 p. m.	29. 12	76	73	28. 987	72	69	85	E.	3	.04	....	Stratus	1-4	Cirrus	3-4	W.				....	Clearing.
	4 7 p. m.	29. 12	77	75	28. 984	74	70	81	E.	8	.32	....	Stratus	1-4	Cirrus	3-4		11.45 a.m	1.15 p. m.	.66	....	Cloudy.
	9 0 p. m.	29. 10	74	71	28. 972	70	68	87	0	0	0	....	Stratus	3-4	Hidden						....	Cloudy.
	10 32 p. m.	39. 11	75	71	28. 980	70	69	95	W.	1	.01	....	Stratus	4-4	Hidden						....	Cloudy.

Meteorological record for August 19, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.76	65	53	23.67	53	49	73	W.	4	.08	....	0	0	Cirrus ..	1-4	0	....	....	....	....	Fair.
	2 0 a. m.	23.75	64	52	23.67	52	49	79	N. W.	1	.01	....	0	0	Cirrus ..	2-4	0	....	....	....	....	Fair.
	3 0 a. m	23.74	62	53	23.66	53	49	73	N. W.	4	.08	....	0	0	Cirrus ..	1-4	0	....	....	....	....	Fair.
	4 0 a. m.	23.74	62	52	23.66	52	48	73	0	0	0	....	0	0	Cirrus ..	2-4	0	....	....	....	....	Fair.
	5 0 a. m.	23.75	63	51	23.67	51	50	93	E.	4	.08	....	0	0	Cir. & cu.	4-4	W.	....	....	....	....	Cloudy.
	6 0 a. m.	23.77	61	55	23.69	55	52	80	S. E.	3	.04	....	0	0	Cirrus ..	2-4	0	....	....	....	....	Fair.
	7 14 a. m	23.78	65	58	23.60	58	55	82	0	0	0	....	Hazy	....	Cumulus	2-4	0	....	....	....	....	Fair.
	8 0 a. m.	23.78	62	57	23.70	57	55	87	0	0	0	....	Fog	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	9 0 a m.	23.80	65	58	23.72	58	56	88	0	0	0	....	Fog	....	Cumulus	2-4	0	....	....	....	....	Cloudy.
	10 0 a. m.	23.81	65	59	23.72	59	57	88	0	0	0	....	Fog	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	11 0 a m.	23.79	65	59	23.70	59	57	88	0	0	0	....	Fog	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	12 0 m.	23.78	67	59	23.69	59	57	88	N. W.	2	.02	108	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
Base of Mount Mitchell, N. C.	1 0 a. m.	27.42	67	61	27.30	61	60	94	0	0	0	...	Stratus ...	4-4	Hidden .	....	....	....	....	....	....	Cloudy.
	2 0 a. m.	27.42	66	61	27.31	61	60	94	S.W.	2	.02	....	Stratus ...	4-4	Hidden .	....	....	....	....	....	....	Cloudy.
	3 0 a. m.	27.41	66	60	27.30	60	59	94	S.W.	1	.01	....	Stratus ...	4-4	Hidden .	....	....	....	....	....	....	Cloudy.
	4 0 a. m.	27.41	65	58	27.30	58	58	100	0	0	0	....	Stratus ...	4-4	Hidden .	....	....	....	....	....	....	Cloudy.
	5 0 a. m.	27.42	64	58	27.31	58	57	94	S.W.	1	.01	....	Stratus ...	4-4	Hidden .	....	....	....	....	....	....	Cloudy.
	6 0 a. m.	27.43	64	58	27.32	58	57	94	0	0	0	....	Fog	....	Hidden .	....	....	....	....	....	....	Foggy.
	7 14 a. m.	27.44	64	61	27.33	61	59	88	0	0	0	....	Stratus ...	4-4	Hidden .	....	....	....	....	....	....	Cloudy.
	8 0 a. m.	27.44	66	64	27.33	64	62	89	S.W.	1	.01	....	Stratus ...	4-4	Hidden .	....	....	....	....	....	....	Cloudy.
	9 0 a. m.	27.47	67	66	27.35	66	64	89	0	0	0	....	Stratus ...	4-4	Hidden .	....	....	....	....	....	....	Cloudy.
	10 0 a. m.	27.47	68	69	27.35	69	65	80	0	0	0	....	Stratus ...	4-4	Hidden .	....	....	....	....	....	....	Cloudy.
	11 0 a. m.	27.45	70	72	27.33	72	67	76	0	0	0	....	Stratus ...	4-4	Hidden .	....	....	....	....	....	....	Cloudy.
	12 0 m.	27.44	73	73	27.31	73	67	72	0	0	0	7	Stratus ...	4-4	Hidden .	....	....	....	....	....	....	Cloudy.
Knoxville, Tenn.	7 0 a. m.	29.17	74	69	29.042	68	67	94	N. E.	3	.04	....	Stratus ...	4-4	Hidden .	....	....	....	....	....	....	Cloudy.
	7 7 a. m.	29.17	74	69	29.042	68	67	94	N. E.	3	.01	....	Stratus ...	4-4	Hidden .	....	....	....	....	....	....	Cloudy.
	11 38 a. m.	29.18	77	76	29.044	75	69	72	N. E.	7	.24	105	Stratus ...	4-4	Hidden .	....	....	....	....	....	....	Cloudy.

Meteorological record for August 19, 1873—Continued.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 p. m.	23. 78	65	56	23. 69	56	55	93	0	0	0		Fog		Hidden							Foggy.
	2 0 p. m.	23. 77	65	57	23. 68	57	56	94	N. W.	4	. 08		Fog		Hidden							Foggy.
	3 0 p. m.	23. 77	69	57	23. 68	57	56	94	N. W.	2	. 02		Fog		Hidden							Foggy.
	4 14 p. m.	23. 77	66	54	23. 68	54	53	93	N.	4	. 08		Nimbus.	4-4	Hidden			3.25 p. m.		. 09		Light rain.
	5 0 p. m.	33. 76	66	54	23. 67	54	53	93	N.	8	. 32		Fog		Hidden				4.45 p. m	. 04		Foggy.
	6 0 p. m.	23. 78	67	54	23. 69	54	53	93	N. E.	3	. 04		Fog		Hidden							Foggy.
	7 0 p. m.	23. 78	67	52	23. 69	52	51	93	N. E.	10	. 50		Nimbus.	4-4	Hidden			6.38 p. m.		. 18		Heavy rain.
	8 0 p. m.	23. 79	68	52	23. 70	52	52	100	N. E.	8	. 32		Fog		Hidden				7.56 p. m.	. 23		Foggy.
	9 0 p. m.	23. 80	67	53	23. 71	53	53	100	N. E.	6	. 18		Fog		Hidden							Foggy.
	10 0 p. m.	23. 79	66	52	23. 70	52	52	100	E.	8	. 32		Fog		Hidden							Foggy.
	10 39 p. m.	23. 78	66	52	23. 69	52	52	100	N. E.	8	. 32		Fog		Hidden							Foggy.
	12 0 p. m.	23. 77	65	52	23. 68	52	52	100	N. E.	8	. 32		Fog		Hidden							Foggy.
Base of Mount Mitchell, N. C.	1 0 p. m.	27. 44	75	73	27. 30	73	67	72	0	0	0		Stratus	4-4	Hidden							Cloudy.
	2 0 p. m.	27. 43	75	72	27. 29	72	67	76	0	0	0		Stratus	4-4	Hidden							Cloudy.
	3 0 p. m.	27. 43	75	71	27. 29	71	67	80	0	0	0		Stratus	4-4	Hidden							Cloudy.
	4 14 p. m.	27. 43	74	70	27. 30	70	67	85	0	0	0		Stratus	4-4	Hidden							Cloudy.
	5 0 p. m.	27. 43	74	70	27. 30	70	67	85	0	0	0		Stratus	4-4	Hidden							Cloudy.
	6 0 p. m.	27. 44	74	67	27. 31	67	65	89	S. E.	1	. 01		Stratus	4-4	Hidden							Threatening.
	7 0 p. m.	27. 45	71	64	27. 32	64	63	94	0	0	0		Nimbus	4-4	Hidden			6.19 p. m.		. 21		Heavy rain.
	8 0 p. m.	27. 45	70	64	27. 33	64	63	94	0	0	0		Nimbus.	4-4	Hidden					. 07		Light rain.
	9 0 p. m.	27. 46	70	63	27. 34	63	62	94	0	0	0		Stratus	4-4	Hidden				8.39 p. m.			Cloudy.
	10 0 p. m.	27. 45	70	63	27. 33	63	62	94	0	0	0		Stratus	4-4	Hidden							Cloudy.
	10 39 p. m.	27. 45	69	63	27. 33	63	62	94	0	0	0		Stratus	4-4	Hidden							Cloudy.
	12 0 p. m.	27. 45	69	63	27. 33	63	62	94	0	0	0		Nimbus.	4-4	Hidden			11.05 p. m.		. 26		Light rain.
Knoxville, Tenn.	2 0 p. m.	29. 15	78	80	29. 012	79	70	61	E.	8	. 32		0	0	Cumulus	3-4	E.					Cloudy.
	4 7 p. m.	29. 14	79	80	28. 999	79	70	61	E.	8	. 32		0	0	Cumulus	2-4	E.					Fair.
	9 0 p. m.	29. 15	74	72	29. 022	71	66	75	N. E.	8	. 32		0	0	0	0	0					Clear.
	10 32 p. m.	29. 14	75	71	29. 010	70	65	75	N. E.	4	. 08		0	0	0	0	0					Clear.

Meteorological record for August 20, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 76	64	51	23. 68	51	51	100	N. E.	6	. 18	....	Fog	....	Hidden	....	......	12.08 a. m.	12.45 a. m.	. 26	....	Foggy.
	2 0 a. m.	23. 75	65	52	23. 66	52	52	100	E.	2	. 02	....	Fog	....	Hidden	....	......	......	......	....	....	Foggy.
	3 0 a. m.	23. 76	66	51	23. 67	51	50	93	S.	2	. 02	....	0	0	Cirrus ..	2-4	0	......	......	....	....	Fair.
	4 0 a. m.	23. 75	66	51	23. 66	51	50	93	S. W.	2	. 02	....	Light fog	....	Cir. & cu.	2-4	S. W.	......	......	....	....	Fair.
	5 0 a. m.	23. 77	65	51	23. 68	51	50	93	W.	4	. 08	....	Light fog	....	Cir. & cu.	2-4	S. W.	......	......	....	....	Fair.
	6 0 a. m.	23. 77	64	53	23. 69	53	53	100	W.	4	. 08	....	Fog	....	Hidden	....	......	......	......	....	....	Foggy.
	7 14 a. m.	23. 78	64	54	23. 70	54	53	94	N. W.	2	. 02	....	Fog	....	Hidden	....	......	......	......	....	....	Foggy.
	8 0 a. m.	23. 79	63	56	23. 71	56	55	94	0	0	0	....	Fog	....	Hidden	....	......	......	......	....	....	Foggy.
	9 0 a. m.	23. 80	65	56	23. 72	56	55	94	0	0	0	....	Fog	....	Hidden	....	......	......	......	....	....	Foggy.
	10 0 a. m.	23. 80	64	56	21. 72	56	55	94	N. E.	4	. 08	....	Fog	....	Hidden	....	......	......	......	....	....	Foggy.
	11 0 a. m.	23. 80	67	61	23. 71	61	58	83	E.	4	. 08	....	Fog	....	Hidden	....	......	10.05 a. m.	10.31 a. m.	. 04	....	Foggy.
	12 0 m ..	23. 80	70	60	23. 70	60	58	88	N. E.	4	. 08	1. 02	Fog	....	Hidden	....	......	......	......	....	....	Foggy.
Base of Mount Mitchell, N. C.	1 0 a. m.	27. 43	69	63	27. 31	63	62	94	0	0	0	....	Stratus ...	3-4	Hidden	....	......	......	12.45 a. m.	. 03	....	Cloudy.
	2 0 a. m.	27. 42	68	61	27. 30	61	60	94	0	0	0	....	Stratus ...	1-4	0	0	0	......	......	....	....	Fair.
	3 0 a. m.	27. 42	68	61	27. 30	61	60	94	0	0	0	....	Stratus ...	3-4	Hidden	....	......	......	......	....	....	Cloudy.
	4 0 a. m.	27. 42	68	62	27. 30	62	61	94	0	0	0	....	Stratus ...	3-4	Hidden	....	......	......	......	....	....	Cloudy.
	5 0 a. m.	27. 44	68	62	27. 32	62	61	94	0	0	0	....	Nimbus ...	4-4	Hidden	....	......	......	......	....	....	Drizzling rain.
	6 0 a. m.	27. 44	68	64	27. 32	64	63	94	0	0	0	....	Stratus ...	3-4	0	0	0	......	......	....	....	Fair.
	7 14 a. m.	27. 46	68	67	27. 34	67	64	84	0	0	0	....	Stratus ...	4-4	Hidden	....	......	......	......	....	....	Cloudy.
	8 0 a. m.	27. 47	69	67	27. 35	67	64	84	0	0	0	....	Stratus ...	4-4	Hidden	....	......	......	......	....	....	Cloudy.
	9 0 a. m.	27. 47	69	68	27. 35	68	66	89	0	0	0	....	Stratus ...	2-4	Cumulus	2-4	0	......	......	....	....	Cloudy.
	10 0 a. m.	27. 47	71	71	27. 34	71	67	80	E.	1	. 01	....	Stratus ...	1-4	Cumulus	3-4	0	......	......	....	....	Cloudy.
	11 0 a. m.	27. 46	73	71	27. 33	71	67	80	E.	1	. 01	....	0	0	Cumulus	3-4	E.	......	......	....	....	Fair.
	12 0 m ..	27. 45	74	75	27. 32	75	69	72	0	0	0	3	0	0	Cumulus	2-4	N. E.	......	......	....	....	Fair.
Knoxville, Tenn	7 0 a. m.	29. 16	72	67	29. 037	66	63	84	N.	3	. 04	....	Hazy	....	0	0	0	......	......	....	....	Fair.
	7 7 a. m.	29. 16	72	67	29. 037	66	63	84	N.	3	. 04	....	Hazy	....	0	0	0	......	......	....	....	Fair.
	11 32 a. m.	29. 17	77	80	29. 034	79	68	53	N. E.	8	. 32	121	0	0	Cumulus	1-4	N. E.	......	......	....	....	Fair.

Meteorological record for August 20, 1873—Continued.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 p. m.	23.79	66	58	23.70	58	57	94	E.	2	.02	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 p. m.	23.78	64	57	23.70	57	56	94	E.	1	.01	....	Nimbus	4-4	Hidden	....	....	1.45 p. m.	....	.06	....	Heavy rain.
	3 0 p. m.	23.77	65	56	23.68	56	55	94	E.	1	.01	....	Fog	....	Hidden	....	....	....	2.30 p. m.	.10	....	Foggy.
	4 14 p. m.	23.76	64	56	23.68	56	55	94	N. E.	4	.08	....	Fog	....	Cumulus	2-4	0	....	....	....	....	Cloudy.
	5 0 p. m.	23.76	65	57	23.67	57	56	94	N. E.	6	.18	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 p. m.	23.76	65	55	23.67	55	55	100	E.	4	.08	....	Fog	...	Hidden	....	....	....	....	....	....	Foggy.
	7 0 p. m.	23.79	67	54	23.70	54	54	100	E.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 p. m.	23.79	66	53	23.70	53	53	100	S. E.	8	.32	....	Nimbus	4-4	Hidden	....	....	7.15 p. m.	....	.63	....	Heavy rain.
	9 0 p. m.	23.80	69	54	23.71	54	54	100	S. E.	8	.32	....	Nimbus	4-4	Hidden	....	....	....	....	.41	....	Heavy rain.
	10 0 p. m.	23.80	70	54	23.70	54	54	100	E.	8	.32	....	Nimbus	4-4	Hidden	....	....	....	....	.34	....	Heavy rain.
	10 39 p. m.	23.81	70	53	23.71	53	53	100	E.	8	.32	....	Nimbus	4-4	Hidden	....	....	....	....	.28	....	Heavy rain.
	12 0 p. m.	23.80	68	53	23.71	53	53	100	S. E.	6	.18	....	Fog	....	Hidden	....	....	....	11.20 p. m.	.20	....	Foggy.
Base of Mount Mitchell, N. C.	1 0 p. m.	27.44	76	75	27.30	75	68	68	N. E.	1	.01	....	0	0	Cumulus	3-4	N. E.	....	....	....	....	Fair.
	2 0 p. m.	27.44	76	72	27.30	72	68	80	E.	1	.01	....	0	0	Cumulus	4-4	E.	....	....	....	....	Cloudy.
	3 0 p. m.	27.44	75	70	27.30	70	67	85	0	0	0	....	0	0	Cumulus	4-4	0	....	....	....	....	Cloudy.
	4 14 p. m.	27.44	75	71	27.30	71	67	80	0	0	0	....	Stratus	1-4	Cumulus	3-4	0	....	....	....	....	Cloudy.
	5 0 p. m.	27.44	74	69	27.31	69	66	85	0	0	0	....	Stratus	2-4	Cumulus	1-4	W.	....	....	....	....	Cloudy.
	6 0 p. m.	27.46	73	68	27.33	68	66	89	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	7 0 p. m.	27.47	74	67	27.34	67	65	89	0	0	0	....	Nimbus	4-4	Hidden	....	....	6.20 p. m.	....	.18	....	Light rain.
	8 0 p. m.	27,48	72	65	27.35	65	64	94	E.	2	.02	....	Nimbus	4-4	Hidden	....	....	....	....	.08	....	Light rain.
	9 0 p. m.	27.48	71	65	27.35	65	64	94	0	0	0	....	Nimbus	4-4	Hidden	....	....	....	....	.01	....	Light rain.
	10 0 p. m.	27.48	71	65	27.35	65	65	100	0	0	0	....	Nimbus	4-4	Hidden	....	....	....	10.10 p. m.	.05	....	Light rain.
	10 39 p. m.	27.46	71	65	27.35	65	64	94	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	12 0 p. m.	27.47	70	64	27.35	64	63	94	0	0	0	....	Stratus	1-4	0	0	0	....	....	....	....	Fair.
Knoxville, Tenn.	2 0 p. m.	29.12	80	82	28.977	81	70	53	N.	6	.18	....	0	0	Cumulus	3-4	N. E.	....	....	....	....	Cloudy.
	4 7 p. m.	29.11	78	78	28.972	77	69	65	N.	10	.50	....	Stratus	3-4	Hidden	....	....	3.50 p. m.	4.20 p. m.	.06	....	Cloudy.
	9 0 p. m.	25.15	77	73	29.014	72	67	76	N. E.	10	.50	....	Stratus	2-4	Cirrus	1-4	0	....	....	....	....	Cloudy.
	10 32 p. m.	29.13	76	72	28.997	71	67	80	N. E.	8	.32	....	Stratus	1-4	0	0	0	....	....	....	....	Fair.

Meteorological record for August 21, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.80	67	53	23.71	53	52	93	S. E.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 a. m.	23.79	67	53	23.70	53	52	93	S.	12	.72	....	Fog	....	Cumulus	3-4	0	....	....	....	....	Foggy.
	3 0 a. m.	23.79	66	52	23.70	52	52	100	S. W.	12	.72	....	Fog	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	4 0 a. m.	23.79	63	53	23.71	53	52	93	S. W.	12	.72	....	0	0	Cumulus	3-4	0	....	....	....	....	Cloudy.
	5 0 a. m.	23.80	62	54	23.72	54	53	93	W.	18	1.62	....	Fog	....	Cumulus	2-4	0	....	....	....	....	Cloudy.
	6 0 a. m.	23.80	59	55	23.73	55	54	93	W.	20	2.00	...	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 14 a. m.	23.80	58	56	23.73	56	55	94	S. W.	12	.72	....	Fog	....	Fog	....	....	....	....	....	....	Foggy.
	8 0 a. m.	23.82	62	58	23.74	58	57	94	W.	12	.72	....	0	0	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	9 0 a. m.	23.84	64	59	23.76	59	58	94	W.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 a. m.	23.83	64	59	23.75	59	57	88	N. W.	4	.08	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	11 0 a. m.	23.83	62	58	23.75	58	57	94	S. W.	4	.08	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 m...	23.83	65	62	23.74	62	59	83	W.	4	.08	181	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
Base of Mount Mitchell, N. C.	1 0 a. m.	27.45	69	63	27.33	63	62	94	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	2 0 a. m.	27.44	69	62	27.32	62	61	94	0	0	0	....	Stratus	1-4	0	0	0	....	....	....	....	Fair.
	3 0 a. m.	27.46	68	62	27.34	62	61	94	0	0	0	....	Stratus	3-4	0	0	0	....	....	....	....	Fair.
	4 0 a. m.	27.47	67	62	27.35	62	61	94	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	5 0 a. m.	27.48	67	63	27.36	63	62	94	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	6 0 a. m.	27.49	67	65	27.37	65	64	94	0	0	0	....	Stratus	3-4	Cumulus	1-4	0	....	....	....	....	Cloudy.
	7 14 a. m.	27.49	68	68	27.37	68	66	89	0	0	0	....	0	0	Cumulus	3-4	N. W.	....	....	....	....	Fair.
	8 0 a. m.	27.50	70	70	27.38	70	67	85	0	0	0	....	0	0	Cumulus	3-4	N.	....	....	....	....	Fair.
	9 0 a. m.	27.51	72	74	27.38	74	73	95	E.	1	.01	....	Stratus	1-4	Cumulus	2-4	S. W.	....	....	....	....	Fair.
	10 0 a. m.	27.51	75	74	27.37	74	73	95	0	0	0	....	Stratus	1-4	Cumulus	2-4	S. W.	....	....	....	....	Fair.
	11 0 a. m.	27.50	75	75	27.36	75	71	81	E.	1	.01	....	Stratus	1-4	Cumulus	2-4	W.	10.35 a. m.	10.55 a. m.	.04	....	Fair.
	12 0 m...	27.49	77	74	27.35	74	70	81	0	0	0	8	0	0	Cumulus	3-4	S. W.	11.25 a. m.	11.45 a. m.	.03	....	Fair.
Knoxville, Tenn.	7 0 a. m.	29.21	74	68	29.082	67	66	94	N. E.	3	.04	....	Light fog	....	Cir.-cum	3-4	S. W.	....	....	....	....	Cloudy.
	7 7 a. m.	29.21	74	68	29.082	67	66	94	N. E.	3	.04	....	Light fog	....	Cir.-cum	3-4	S. W.	....	....	....	....	Cloudy.
	11 32 a. m.	29.20	80	81	29.057	80	72	66	E.	3	.04	108	Hazy	....	Cumulus	3-4	W.	....	....	....	....	Cloudy.

Meteorological record for August 21, 1873—Continued.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 p. m.	23.82	66	60	23.73	60	58	88	S.W.	2	.02	....	Fog	....	Hidden	....	......	....	....	...	....	Foggy.
	2 0 p. m.	23.81	65	60	23.72	60	59	94	0	0	0	....	Fog	....	Hidden	....	......	....	....	...	....	Foggy.
	3 0 p. m.	23.82	68	59	23.73	59	59	100	S.W.	4	.08	....	Nimbus	4-4	Hidden	....	......	2.30 p. m.	....	.05	....	Light rain.
	4 14 p. m.	23.81	63	57	23.73	57	57	100	W.	4	.08	....	Fog	....	Hidden	....	......	....	3.40 p. m.	.03	....	Foggy.
	5 0 p. m.	23.81	64	57	23.73	57	56	94	S.W.	4	.08	....	Fog	....	Hidden	....	......	4.20 p. m.	4.50 p. m.	.08	....	Foggy.
	6 0 p. m.	23.82	65	57	23.73	57	55	87	S.	4	.08	....	Fog	....	Hidden	....	......	....	....	...	....	Cloudy.
	7 0 p. m.	23.82	64	55	23.74	55	55	100	S.	4	.08	....	Fog	...	Hidden	....	......	....	....	...	....	Foggy.
	8 0 p. m.	23.83	64	54	23.75	54	54	100	S.	4	.08	....	Fog	....	Hidden	....	......	....	....	...	....	Foggy.
	9 0 p. m.	23.84	64	53	23.76	53	53	100	S.W.	6	.18	....	Fog	....	Hidden	....	......	....	....	...	....	Foggy.
	10 0 p. m.	23.84	66	54	23.75	54	54	100	S.W.	12	.72	....	Fog	....	Hidden	....	......	....	....	...	....	Foggy.
	10 39 p. m.	23.83	66	54	23.74	54	54	100	S.W.	12	.72	....	Fog	....	Hidden	....	......	....	....	...	....	Foggy.
	12 0 p. m.	23.83	64	54	23.75	54	54	100	W.	12	.72	....	Fog	....	Hidden	....	......	....	....	...	....	Foggy.
Base of Mount Mitchell, N. C.	1 0 p. m.	27.48	78	73	27.34	73	71	90	0	0	0	....	Nimbus	4-4	Hidden	....	......	12.30 p. m.	1.04 p. m.	.03	....	Light rain.
	2 0 p. m.	27.47	78	71	27.33	71	69	90	E.	1	.01	....	Nimbus	3-4	Hidden	....	......	1.35 p. m.	2.05 p. m.	.03	....	Light rain.
	3 0 p. m.	27.48	77	71	27.34	71	70	95	0	0	0	....	Stratus	1-4	Cumulus	2-4	W.	2.50 p. m.	3.10 p. m.	.02	....	Cloudy.
	4 14 p. m.	27.48	76	68	27.34	68	66	89	E.	1	.01	....	Nimbus	3-4	Hidden	....	......	4.00 p. m.	....	.09	....	Light rain.
	5 0 p. m.	27.48	75	69	27.34	69	68	95	E.	1	.01	....	Stratus	2-4	Cirrus	2-4	0	....	4.34 p. m.	.01	....	Cloudy.
	6 0 p. m.	27.49	74	67	27.36	67	66	95	0	0	0	....	Hazy	....	Cir. & cu	2-4	S.	....	....	...	....	Fair.
	7 0 p. m.	27.49	73	65	27.36	65	63	89	0	0	0	....	0	0	0	0	0	7.48 p. m.	....	...	....	Clear.
	8 0 p. m.	27.51	71	64	27.38	64	63	94	0	0	0	....	Nimbus	2-4	0	0	0	....	8.15 p. m.	...	....	Light rain.
	9 0 p. m.	27.51	71	64	27.38	64	63	94	0	0	0	....	Stratus	2-4	0	0	0	....	....	...	....	Fair.
	10 0 p. m.	27.50	71	63	27.37	63	62	94	0	0	0	....	Stratus	4-4	Hidden	....	......	....	....	...	....	Cloudy.
	10 39 p. m.	27.50	70	63	27.38	63	62	94	0	0	0	....	Stratus	1-4	0	0	0	....	....	...	....	Fair.
	12 0 p. m.	27.49	69	62	27.37	62	61	94	0	0	0	....	Stratus	4-4	Hidden	....	......	....	....	...	....	Cloudy.
Knoxville, Tenn.	2 0 p. m.	29.16	82	85	29.012	84	72	53	W.	3	.04	...	0	0	Cu. & cir	2-4	W.	....	....	...	....	Fair.
	4 7 p. m.	29.16	83	86	29.009	85	72	50	N. W.	8	.32	....	Stratus	1-4	Cu. & cir	3-4	W.	....	....	...	....	Cloudy.
	9 0 p. m.	29.15	75	71	29.020	70	69	95	0	0	0	....	Stratus	2-4	0	0	0	....	....	...	....	Clearing.
	10 32 p. m.	29.15	75	71	29.020	70	69	95	0	0	0	....	Stratus	1-4	Hazy	....	......	5.10 p. m.	6.00 p. m.	.44	....	Fair.

Meteorological record for August 22, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 82	65	54	23. 73	54	54	100	S. W.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 a. m.	23. 81	66	53	23. 72	53	53	100	W.	6	.18	....	Fog	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	3 0 a. m.	23. 80	66	53	23. 71	53	52	93	W.	4	.08	....	0	0	Cumulus	2-4	0	....	....	....	....	Fair.
	4 0 a. m.	23. 80	65	52	23. 71	52	51	93	W.	4	.08	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	5 0 a. m.	23. 80	60	53	23. 72	53	52	93	W.	4	.08	....	Hazy	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	6 0 a. m.	23. 81	60	56	23. 73	56	55	94	W.	8	.32	....	Hazy	....	Cumulus	2-4	0	....	....	....	....	Fair.
	7 14 a. m.	23. 83	66	57	23. 74	57	56	94	N. W.	4	.08	....	0	0	Cir. & cu	2-4	0	....	....	....	....	Fair.
	8 0 a. m.	23. 85	72	57	23. 75	57	55	87	N. W.	6	.18	....	0	0	Cir. & cu	2-4	0	....	....	....	....	Fair.
	9 0 a. m.	23. 87	70	60	23. 77	60	57	82	N. W.	6	.18	....	0	0	Cir. & cu	2-4	N. W.	....	....	....	....	Fair.
	10 0 a. m.	23. 88	68	57	23. 79	57	56	94	N. W.	6	.18	....	Fog	....	Hidden	....	....	10.48 a. m.	....	.02	....	Foggy.
	11 0 a. m.	23. 87	65	56	23. 78	56	56	100	0	0	0	....	Nimbus	4-4	Hidden	....	....	....	11.36 a. m.	.23	....	Light rain.
	12 0 m..	23. 87	65	59	23. 78	59	58	94	N. E.	8	.32	145	Fog	....	Cumulus	2-4	....	....	....	....	....	Foggy.
Base of Mount Mitchell, N. C.	1 0 a. m.	27. 49	69	63	27. 37	63	62	94	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	2 0 a. m.	27. 49	69	63	27. 37	63	62	94	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	3 0 a. m.	27. 49	69	63	27. 37	63	62	94	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	4 0 a. m.	27. 49	69	63	27. 37	63	62	94	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	5 0 a. m.	27. 50	69	63	27. 38	63	62	94	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	6 0 a. m.	27. 51	68	63	27. 39	63	62	94	0	0	0	....	Nimbus	4-4	Hidden	....	....	5.45 a. m.	....	....	....	Light rain.
	7 14 a. m.	27. 53	68	62	27. 41	62	60	88	0	0	0	....	Stratus	3-4	Cir.-cum.	1-4	W.	....	6.15 a. m.	.02	....	Cloudy.
	8 0 a. m.	27. 54	69	73	27. 42	73	70	85	N. E.	1	.01	....	0	0	Cumulus	2-4	N. E.	....	....	....	....	Fair.
	9 0 a. m.	27. 54	72	76	27. 41	76	70	73	N. E.	4	.08	....	Stratus	1-4	Cumulus	3-4	N. E.	....	....	....	....	Cloudy.
	10 0 a. m.	27. 55	75	77	27. 41	77	69	65	N. E.	1	.01	....	0	0	Cumulus	3-4	N. E.	....	....	....	....	Fair.
	11 0 a. m.	27. 54	77	78	27. 40	78	71	69	N. E.	4	.08	....	0	0	Cumulus	2-4	N. E.	....	....	....	....	Fair.
	12 0 m..	27. 53	79	75	27. 38	75	70	77	N. E.	1	.01	5	0	0	Cumulus	4-4	N. E.	....	....	....	....	Cloudy.
Knoxville, Tenn.	7 0 a. m.	29. 23	75	70	29. 100	69	68	95	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	7 7 a. m.	29. 23	75	70	29. 100	69	68	95	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	11 32 a. m.	29. 28	76	73	29. 147	72	70	90	S.	8	.32	60	Nimbus	4-4	Hidden	....	....	....	....	....	....	Light rain.

Meteorological record for August 22, 1873—Continued.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 p. m.	23. 86	67	58	23. 77	58	58	100	0	0	0	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 p. m.	23. 85	68	56	23. 76	56	56	100	N. E.	4	.08	....	Nimbus	4-4	Hidden	....	....	1.05 p. m.	....	.07	....	Light rain.
	3 0 p. m.	23. 85	65	54	23. 76	54	53	93	N. E.	8	.32	....	Nimbus	2-4	Cumulus	2-4	0	....	....	.09	....	Lt. rain; thunders'm.
	4 14 p. m.	23. 84	63	55	23. 76	55	54	93	N. E.	12	.72	....	Light fog	....	Cumulus	3-4	N. E.	....	....	.04	....	Cloudy.
	5 0 p. m.	23. 84	63	54	23. 76	54	54	100	N. E.	6	.18	....	Nimbus	4-4	Hidden	....	....	....	4.10 p. m.	.03	....	Light rain.
	6 0 p. m.	23. 85	61	54	23. 77	54	53	93	N. E.	16	1. 28	....	Light fog	....	Cumulus	4-4	0	4.30 p. m.	5.20 p. m.	.01	....	Foggy.
	7 0 p. m.	23. 85	62	55	23. 77	55	52	81	N. E.	12	.72	....	0	0	Cumulus	4-4	0	....	....	....	....	Cloudy.
	8 0 p. m.	23. 86	63	54	23. 78	54	51	80	N. E.	8	.32	....	0	0	Cumulus	4-4	0	....	....	....	....	Cloudy.
	9 0 p. m.	23. 87	63	54	23. 79	54	52	87	N. E.	12	.72	....	0	0	Cumulus	3-4	0	....	....	....	....	Cloudy.
	10 0 p. m.	23. 87	62	53	23. 79	53	52	93	N. E.	10	.50	....	0	0	Cirrus	2-4	0	....	....	....	....	Fair.
	10 39 p. m.	23. 86	62	53	23. 78	53	52	93	N. E.	12	.72	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	12 0 p. m.	23. 86	62	53	23. 78	53	50	80	N. E.	10	.50	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
Base of Mount Mitchell, N. C.	1 0 p. m.	27. 52	79	73	27. 37	73	70	85	0	0	0	....	Nimbus	1-4	Cumulus	3-4	0	12.30 p. m.	....	....	....	Light rain.
	2 0 p. m.	27. 52	78	69	27. 38	69	67	90	N. E.	1	.01	....	Stratus	4-4	Hidden	....	....	....	1. 10 p. m.	....	....	Threatening.
	3 0 p. m.	27. 52	76	70	27. 38	70	68	90	N. E.	1	.01	....	Nimbus	4-4	Hidden	....	....	2.20 p. m.	....	.01	....	Light rain.
	4 14 p. m.	27. 52	75	69	27. 38	69	68	95	0	0	0	....	Nimbus	4-4	Hidden	....	....	....	....	.04	....	Light rain.
	5 0 p. m.	27. 52	71	68	27. 39	68	66	89	0	0	0	....	Nimbus	4-4	Hidden	....	....	....	....	.04	....	Light rain.
	6 0 p. m.	27. 53	73	67	27. 40	67	66	95	0	0	0	...	Stratus	4-4	Hidden	....	....	....	5.30 p. m.	...	....	Cloudy.
	7 0 p. m.	27. 53	73	66	27. 40	66	65	94	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	8 0 p. m.	27. 54	72	65	27. 41	65	64	94	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	9 0 p. m.	27. 54	71	65	27. 41	65	64	94	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	10 0 p. m.	27. 54	71	64	27. 41	64	63	94	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	10 39 p. m.	27. 54	70	64	27. 42	64	63	94	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	12 0 p. m.	27. 52	70	63	27. 40	63	62	94	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
Knoxville, Tenn.	2 0 p. m.	29. 24	77	78	29. 099	77	73	79	S.	3	.04	....	0	0	Cumulus	3-4	0	....	....	....	....	Clearing.
	4 7 p. m.	29. 20	79	83	29. 059	82	74	67	S.	4	.08	....	0	0	Cumulus	1-4	0	11.45 a. m.	12.30 p. m.	.01	....	Fair.
	9 0 p. m.	29. 22	75	72	29. 090	71	69	90	N. E.	3	.04	....	Stratus	1-4	0	0	0	....	....	....	....	Fair.
	10 32 p. m.	29. 21	76	71	29. 077	70	69	95	N. E.	2	.02	....	0	0	0	0	0	....	....	....	....	Clear.

Meteorological record for August 23, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.			WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.	Relative humidity.	Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 84	62	53	23. 76	53	52	93	N. E.	12	. 72	....	0	0	Cirrus ..	1-4	0	....	....	....	....	Fair.
	2 0 a. m.	23. 84	61	53	23. 76	53	52	93	N. E.	12	. 72	....	0	0	Cirrus ..	1-4	0	....	....	....	....	Fair.
	3 0 a. m.	23. 83	61	54	23. 75	54	53	93	N. E.	8	. 32	....	0	0	Cirrus ..	1-4	0	....	....	....	....	Fair.
	4 0 a. m.	23. 83	60	55	23. 75	55	52	81	N. E.	10	. 50	....	0	0	Cirrus ..	1-4	0	....	....	....	....	Fair.
	5 0 a. m.	23. 84	59	54	23. 77	54	50	74	N. E.	12	. 72	....	Hazy	....	Cir. & cu.	1-4	0	....	....	....	....	Fair.
	6 0 a. m.	23. 86	62	56	23. 78	56	53	81	N. E.	12	. 72	....	Hazy	....	Cir. & cu.	1-4	0	....	....	....	....	Fair.
	7 14 a. m.	23. 88	63	57	23. 80	57	55	87	N. E.	8	. 32	....	0	0	Cir. & cu.	3-4	0	....	....	....	....	Cloudy.
	8 0 a. m.	23. 90	64	58	23, 82	58	55	82	N. E.	8	. 32	....	Light fog .	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	9 0 a. m.	23. 91	65	60	23. 82	60	57	82	N. E.	6	. 18	....	Hazy	....	Cumulus	3-4	N. E.	....	....	....	....	Cloudy.
	10 0 a. m.	23. 92	66	62	23. 83	62	58	77	N. E.	4	. 08	....	Hazy	....	Cumulus	2-4	N. E.	....	....	....	....	Fair.
	11 0 a. m.	23. 92	67	63	23. 83	63	58	72	N. E.	6	. 18	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	12 0 m...	23. 93	68	63	23. 84	63	59	78	N. E.	4	. 08	204	Hazy	....	Cumulus	3-4	W.	....	....	....	....	Cloudy.
Base of Mount Mitchell, N. C.	1 0 a. m.	27. 52	70	63	27. 40	63	62	94	0	0	0	....	Stratus ...	4-4	Hidden .	....	....	....	....	....	....	Cloudy.
	2 0 a. m.	27. 51	69	63	27. 39	63	62	94	0	0	0	....	Stratus ...	4-4	Hidden .	....	....	....	....	....	....	Cloudy.
	3 0 a. m.	27. 51	69	62	27. 39	62	61	94	0	0	0	....	Stratus ...	4-4	Hidden .	....	....	....	....	....	....	Cloudy.
	4 0 a. m.	27. 52	68	61	27. 40	61	60	94	0	0	0	....	Fog	....	Hidden .	....	....	....	....	....	....	Foggy.
	5 0 a. m.	27. 54	68	61	27. 42	61	60	94	0	0	0	....	Fog	....	Hidden .	....	....	....	....	....	....	Foggy.
	6 0 a. m.	27. 56	67	62	27. 44	62	61	94	0	0	0	....	Fog	....	Hidden .	....	....	....	....	....	....	Foggy.
	7 14 a. m.	27. 57	68	71	27. 45	71	66	75	0	0	0	....	0	0	Cirrus ..	2-4	W.	....	....	....	....	Fair.
	8 0 a. m.	27. 58	69	73	27. 46	73	68	76	0	0	0	....	Stratus ...	1-4	Cirrus ..	1-4	W.	....	....	....	....	Fair.
	9 0 a. m.	27. 59	72	74	27. 46	74	69	76	0	0	0	....	0	0	Cir. & cu.	2-4	W.	....	....	....	....	Fair.
	10 0 a. m.	27. 59	75	78	27. 45	78	75	86	0	0	0	....	0	0	Cumulus	1-4	W.	....	....	....	....	Fair.
	11 0 a. m.	27. 58	78	80	27. 44	80	70	58	0	0	0	....	0	0	Cumulus	2-4	W.	....	....	....	....	Fair.
	12 0 m...	27. 59	80	79	27. 44	79	71	66	0	0	0	5	0	0	Cumulus	3-4	W.	....	....	....	....	Fair.
Knoxville, Tenn.	7 0 a. m.	29. 28	74	67	29. 152	66. 5	66	97	0	0	0	....	Fog	....	Hidden .	....	....	....	....	....	....	Foggy.
	7 7 a. m.	29. 28	74	67	29. 152	66. 5	66	97	0	0	0	....	Fog	....	Hidden .	....	....	....	....	....	....	Foggy.
	11 32 a. m.	29. 31	80	81	29. 167	80	73	68	E.	4	. 08	86	0	0	Cumulus	1-4	E.	....	....	....	....	Fair.

Meteorological record for August 23, 1873—Continued.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 p. m.	23.94	70	61	23.84	61	60	94	N. E.	2	.02	....	Hazy	....	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	2 0 p. m.	23.92	70	61	23.82	61	60	94	N. E.	4	.08	....	Hazy	....	Cumulus	3-4	E.	....	....	....	....	Cloudy.
	3 0 p. m.	23.90	67	59	23.81	59	58	94	N. W.	4	.08	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	4 14 p. m.	23.90	68	59	23.81	59	58	94	N.	4	.08	....	Hazy	....	Cumulus	4-4	W.	3.10 p. m.	3.25 p. m.	.03	...	Cloudy.
	5 0 p. m.	23.90	67	61	23.81	61	58	83	N.	6	.18	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	6 0 p. m.	23.91	69	60	23.82	60	58	88	N.	8	.32	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	7 0 p. m.	23.93	66	56	23.84	56	55	94	N. W.	12	.72	....	Hazy	....	Cir. & cu	2-4	0	....	....	...	....	Fair.
	8 0 p. m.	23.94	64	54	23.86	54	53	93	N. E.	12	.72	....	0	0	0	0	0	....	....	...	....	Clear.
	9 0 p. m.	23.94	63	55	23.86	55	54	93	N. E.	12	.72	....	Light fog.	....	Cirrus ..	1-4	0	....	....	...	..	Fair.
	10 0 p. m.	23.94	62	55	23.86	55	54	93	N.	9	.40	....	0	0	Cirrus ..	1-4	0	....	....	....	....	Fair.
	10 39 p. m.	23.93	61	54	23.85	54	53	93	N.	8	.32	....	0	0	Cirrus ..	1-4	0	....	....	....	....	Fair.
	12 0 p. m.	23.91	59	54	23.84	54	53	93	E.	12	.72	....	Light fog.	....	0	0	0	....	....	....	....	Fair.
Base of Mount Mitchell, N. C.	1 0 p. m.	27.57	82	82	27.42	82	71	56	N. E.	2	.02	....	Stratus ...	1-4	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	2 0 p. m.	27.58	80	75	27.43	75	69	72	S. E.	4	.08	....	Stratus ...	1-4	Cumulus	2-4	N. E.	1.45 p. m.	2.06 p. m.	.01	....	Fair.
	3 0 p. m.	27.57	80	77	27.42	77	69	65	0	0	0	....	0	0	Cumulus	2-4	N. W.	2.10 p. m.	2.20 p. m.	.01	....	Fair.
	4 14 p. m.	27.57	80	74	27.42	74	70	81	S. E.	1	.01	....	0	0	Cumulus	2-4	N. E.	....	....	...	....	Fair.
	5 0 p. m.	27.57	78	70	27.43	70	68	90	0	0	0	....	0	0	Cumulus	1-4	0	....	....	....	....	Fair.
	6 0 p. m.	27.57	76	67	27.43	67	65	89	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	7 0 p. m.	27.58	74	65	27.45	65	64	94	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	8 0 p. m.	27.58	72	63	27.45	63	61	89	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	9 0 p. m.	27.58	70	61	27.46	61	60	94	0	0	0	....	0	0	0	0	0	....	....	...	....	Clear.
	10 0 p. m.	27.58	68	60	27.46	60	59	94	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	10 39 p. m.	27.57	68	59	27.45	59	58	94	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	12 0 p. m.	27.57	67	57	27.45	57	56	94	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
Knoxville, Tenn.	2 0 p. m.	29.28	82	85	29.132	84	72	55	E.	8	.32	....	0	0	Cumulus	1-4	E.	....	....	....	....	Fair.
	4 7 p. m.	29.25	85	88	29.093	87	73	45	E.	4	.08	....	0	0	Cumulus	1-4	N. E.	....	....	....	....	Fair.
	9 0 p. m.	29.26	80	78	29.116	77	72	77	0	0	.0	....	0	0	0	0	0	....	....	....	....	Clear.
	10 32 p. m.	29.26	78	74	29.128	73	70	85	N.	1	.01	....	0	0	0	0	0	....	....	....	....	Clear.

Meteorological record for August 24, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Wet bulb.	Dry bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.90	59	54	23.83	54	53	93	N.	8	.32	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	2 0 a. m.	23.89	59	53	23.82	53	52	93	N. W.	6	.18	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	3 0 a. m.	23.89	58	53	23.82	53	52	93	N. W.	2	.02	....	Light fog .	....	0	0	0	....	....	....	....	Fair.
	4 0 a. m.	23.91	59	53	23.84	53	52	93	N. W.	2	.02	....	Light fog .	....	0	0	0	....	....	....	....	Fair.
	5 0 a. m.	23.90	59	55	23.83	55	54	93	N. W.	6	.18	....	Light fog .	....	0	0	0	....	....	....	....	Fair.
	6 0 a. m.	23.91	60	56	23.83	56	55	94	N. W.	2	.02	....	Light fog .	....	Cirrus	1-4	0	....	....	....	....	Fair.
	7 14 a. m.	23.93	63	58	23.85	58	56	88	N. W.	8	.32	....	Hazy	....	Cirrus	1-4	0	....	....	....	....	Fair.
	8 0 a. m.	23.94	63	60	23.86	60	55	71	N. W.	4	.08	....	Hazy	....	Cirrus	1-4	0	....	....	....	....	Fair.
	9 0 a. m.	23.95	63	60	23.87	60	55	71	N.	4	.08	....	Hazy	....	Cumulus..	1-4	N.	....	....	....	....	Fair.
	10 0 a. m.	23.95	63	63	23.87	63	58	72	N.	2	.02	....	Hazy	....	Cumulus..	2-4	N.	....	....	....	....	Fair.
	11 0 a. m.	23.94	63	64	23.86	64	59	73	0	0	0	....	Hazy	....	Cumulus..	2-4	N. W.	....	....	....	....	Fair.
	12 0 m ..	23.94	65	63	23.85	63	58	72	W.	1	.01	145	Hazy	....	Cumulus..	2-4	N. W.	....	....	....	....	Fair.
Base of Mount Mitchell, N. C.	1 0 a. m.	27.56	66	56	27.45	56	55	93	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	2 0 a. m.	27.57	64	56	27.46	56	55	93	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	3 0 a. m.	27.56	64	55	27.45	55	54	93	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	4 0 a. m.	27.57	63	56	27.46	56	55	93	0	0	0	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 a. m.	27.58	62	55	27.48	55	54	93	0	0	0	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 a. m.	27.59	62	56	27.49	56	55	93	0	0	0	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 14 a. m.	27.60	64	62	27.49	62	61	94	0	0	0	....	Hazy	....	Hazy	....	....	....	....	....	....	Clear.
	8 0 a. m.	27.61	65	72	27.50	72	66	71	S. E.	1	.01	....	Hazy	....	0	0	0	....	....	....	....	Clear.
	9 0 a. m.	27.61	69	74	27.49	74	67	68	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	10 0 a. m.	27.61	74	79	27.48	70	75	82	0	0	0	....	Hazy	....	Cumulus..	1-4	E.	....	....	....	....	Clear.
	11 0 a. m.	27.61	77	80	27.47	80	68	51	0	0	0	....	Hazy	....	Cumulus..	1-4	E.	....	....	....	....	Clear.
	12 0 m ..	27.60	80	81	27.45	81	70	55	0	0	0	9	Hazy	....	Cumulus..	2-4	E.	....	....	....	....	Fair.
Knoxville, Tenn .	7 0 a. m.	29.32	76	70	29.185	69	68	95	N.	2	.02	....	Fog.......	....	0	0	0	....	....	....	....	Fair.
	7 7 a. m.	29.32	76	71	29.185	70	68	90	N.	2	.02	....	Fog.......	....	0	0	0	....	....	....	....	Fair.
	11 32 a. m.	29.32	82	85	29.170	82	72	60	E.	3	.04	84	Hazy	....	0	0	0	....	....	....	....	Fair.

Meteorological record for August 24, 1873—Continued.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'd.	Ended.			
Summit of Mount Mitchell, N. C..	1 0 p. m.	23.94	70	65	23.84	65	59	68	N. W.	2	.02	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	2 0 p. m.	23.94	71	63	23.84	63	58	72	0	0	0	....	Hazy	....	Cumulus	3-4	N.	....	....	....	....	Cloudy.
	3 0 p. m.	23.93	70	65	23.83	65	60	73	N. W.	4	.08	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Fair.
	4 14 p. m.	23.91	70	64	23.81	64	60	78	N. W.	4	.08	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	5 0 p. m.	23.91	70	61	23.81	61	57	77	N. W.	4	.08	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	6 0 p. m.	23.91	68	58	23.82	58	57	94	0	0	0	....	Hazy	....	Cumulus	2-4	0	....	....	....	....	Fair.
	7 0 p. m.	23.91	63	57	23.83	57	56	94	N. W.	4	.08	....	Hazy	....	Cirrus	2-4	0	....	....	....	....	Fair.
	8 0 p. m.	23.92	63	56	23.84	56	55	94	N. W.	4	.08	....	Hazy	....	Cirrus	1-4	0	....	....	....	....	Fair.
	9 0 p. m.	23.92	65	56	23.83	55	54	93	N. W.	3	.04	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	10 0 p. m.	23.93	63	54	23.85	54	52	87	N. W.	4	.08	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	10 39 p. m.	23.92	62	53	23.84	53	51	87	N. W.	8	.32	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	12 0 p. m.	23.89	61	56	23.81	56	51	69	N. W.	4	.08	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
Base of Mount Mitchell, N. C..	1 0 p. m.	27.59	81	81	27.44	81	73	66	0	0	0	....	0	0	Cumulus	1-4	E.	....	....	....	....	Clear.
	2 0 p. m.	27.59	84	81	27.43	81	74	70	0	0	0	....	0	0	Cumulus	1-4	N. E.	....	....	....	....	Fair.
	3 0 p. m.	27.58	84	78	27.42	78	75	86	0	0	0	....	Hazy	....	Cumulus	1-4	N. E.	....	....	....	....	Fair.
	4 14 p. m.	27.56	81	73	27.41	73	70	85	0	0	0	....	Hazy	....	Cumulus	1-4	N. E.	....	....	....	....	Fair.
	5 0 p. m.	27.57	80	71	27.42	71	69	90	0	0	0	....	Hazy	....	Cumulus	1-4	0	....	....	....	....	Clear.
	6 0 p. m.	27.55	75	64	27.41	64	62	89	0	0	0	....	Hazy	....	0	0	0	....	....	....	....	Clear.
	7 0 p. m.	27.56	73	62	27.43	62	61	94	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	8 0 p. m.	27.57	71	60	27.44	60	59	94	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	9 0 p. m.	27.56	68	59	27.44	59	57	88	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	10 0 p. m.	27.56	68	57	27.44	57	55	87	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	10 30 p. m.	27.56	67	56	27.44	56	55	93	0	0	0	...	0	0	0	0	0	....	....	....	....	Clear.
	12 0 p. m.	27.55	65	55	27.44	55	54	93	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
Knoxville, Tenn.	2 0 p. m.	29.28	86	88	29.120	87	72	45	S.	3	.04	....	Hazy	....	Cumulus	1-4	0	....	....	....	....	Fair.
	4 7 p. m.	29.24	87	90	29.078	89	71	37	N.	4	.08	....	Hazy	....	Cumulus	1-4	0	....	....	....	....	Fair.
	9 0 p. m.	29.24	82	77	29.091	76	72	82	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	10 32 p. m.	29.25	79	73	20.108	72	60	85	N.	1	.01	....	0	0	0	0	0	....	....	....	....	Clear.

Meteorological record for August 25, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.88	60	54	23.80	54	50	74	N. W.	8	.32	....	0	0	Cirrus ..	1-4	0	....	....	....	....	Fair.
	2 0 a. m.	23.87	62	53	23.79	53	52	93	W.	9	.32	....	Hazy	....	Cirrus ..	1-4	0	....	....	....	....	Fair.
	3 0 a. m.	23.86	63	54	23.78	54	53	93	W.	12	.72	....	0	0	0	0	0	....	....	....	....	Clear.
	4 0 a. m.	23.86	61	55	23.78	55	53	87	N. W.	20	2.00	....	Hazy	....	Cirrus ..	1-4	0	....	....	....	....	Fair.
	5 0 a. m.	23.87	59	56	23.80	56	53	81	N. W.	12	.72	....	Hazy	....	Cirrus ..	1-4	0	....	....	....	....	Fair.
	6 0 a. m.	23.87	60	56	23.79	56	53	81	N. W.	8	.32	....	Dense haze	....	0	0	0	....	....	....	....	Fair.
	7 14 a. m.	23.87	61	58	23.79	58	54	76	N. W.	8	.32	....	Hazy	....	Cumulus	1-4	0	....	....	....	....	Fair.
	8 0 a. m.	23.88	61	59	23.80	59	55	76	N. W.	4	.08	....	Hazy	....	Cumulus	1-4	0	....	....	....	....	Fair.
	9 0 a. m.	23.88	64	62	23.80	62	57	72	N. W.	4	.08	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	10 0 a. m.	23.88	64	62	23.80	62	57	72	N. W.	4	.08	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	11 0 a. m.	23.87	66	66	23.78	66	59	64	N. W.	4	.08	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	12 0 m ..	23.86	67	67	23.77	67	60	64	W.	6	.18	138	Hazy	....	Cumulus	2-4	W.	....	....	....	....	Fair.
Base of Mount Mitchell, N. C.	1 0 a. m.	27.54	63	55	27.43	55	53	87	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	2 0 a. m.	27.53	62	53	27.43	53	52	93	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	3 0 a. m.	27.52	62	52	27.42	53	51	93	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	4 0 a. m.	27.52	61	52	27.42	53	51	93	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	5 0 a. m.	27.53	59	53	27.43	53	52	93	0	0	0	....	Fog	....	Hidden .	....	....	....	....	....	....	Foggy.
	6 0 a. m.	27.53	59	55	27.43	55	54	93	0	0	0	....	Fog	....	Hazy ...	....	....	....	....	....	....	Fair.
	7 14 a. m.	27.51	61	65	27.42	65	62	84	0	0	0	....	Hazy	....	Hazy ...	....	....	....	....	....	....	Clear.
	8 0 a. m.	27.52	64	74	27.41	74	61	65	0	0	0	....	Hazy	....	Hazy ...	....	....	....	....	....	....	Clear.
	9 0 a. m.	27.52	69	75	27.40	75	67	64	0	0	0	....	Hazy	....	Cumulus	1-4	0	....	....	....	....	Clear.
	10 0 a. m.	27.52	74	79	27.39	79	70	62	0	0	0	....	Hazy	....	Cumulus	1-4	W.	....	....	....	....	Fair.
	11 0 a. m.	27.52	78	81	27.38	81	69	52	0	0	0	....	0	0	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	12 0 m ..	27.51	79	82	27.36	82	70	52	0	0	0	0	0	0	Cumulus	2-4	N. E.	....	....	....	....	Fair.
Knoxville, Tenn.	7 0 a. m.	29.23	71	69	29.110	68	66	90	N.	3	.04	....	Hazy	....	0	0	0	....	....	....	....	Fair.
	7 7 a. m.	29.23	71	69	29.110	68	66	90	N.	3	.04	....	Hazy	....	0	0	0	....	....	....	....	Fair.
	11 32 a. m.	29.23	84	84	29.075	83	73	63	S. W.	5	.12	78	Hazy	....	Cumulus	1-4	W.	....	....	....	....	Fair.

Meteorological record for August 23, 1873—Continued.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 p. m.	23.86	72	66	23.76	66	58	59	W.	8	.32	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	2 0 p. m.	23.85	72	66	23.75	66	59	64	W.	8	.32	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	3 0 p. m.	23.84	73	65	23.74	65	60	73	W.	6	.18	....	Fog	....	Cumulus	2-4	W.	....	....	....	....	Fair.
	4 14 p. m.	23.83	73	63	23.73	63	58	72	W.	4	.08	....	Hazy	....	Cumulus	3-4	....	....	....	....	....	Cloudy.
	5 0 p. m.	23.82	69	59	23.73	59	57	88	N. W.	4	.08	....	Hazy	....	Cumulus	4-4	....	....	....	....	....	Cloudy.
	6 0 p. m.	23.82	68	58	23.73	58	57	94	N. W.	8	.32	....	Hazy	....	Cumulus	4-4	....	....	....	....	....	Cloudy.
	7 0 p. m.	23.80	68	58	23.71	58	58	100	N. W.	12	.72	....	Fog	....	Hidden	....	....	6.30 p. m.	6.50 p. m.	.03	....	Foggy.
	8 0 p. m.	23.82	68	58	23.73	58	58	100	N. W.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 p. m.	23.82	67	57	23.73	57	57	100	N. W.	2	.02	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 p. m.	23.82	67	57	23.73	57	56.5	97	N. W.	16	1.28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 39 p. m.	23.80	65	57	23.71	57	56	94	N. W.	20	2.00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 p. m.	23.78	63	56	23.70	56	55	93	N. W.	18	1.62	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
Base of Mount Mitchell, N. C.	1 0 p. m.	27.51	82	81	27.36	81	70	55	0	0	0	....	Hazy	....	Cumulus	2-4	W.	....	....	....	....	Fair.
	2 0 p. m.	27.49	83	78	27.33	78	69	69	0	0	0	....	Hazy	....	Cumulus	3-4	W.	....	....	....	....	Fair.
	3 0 p. m.	27.47	83	80	27.31	80	71	55	0	0	0	....	Hazy	....	Cumulus	2-4	W.	....	....	....	....	Fair.
	4 14 p. m.	27.46	83	79	27.30	79	73	82	0	0	0	....	Hazy	....	Cumulus	2-4	W.	....	....	....	....	Fair.
	5 0 p. m.	27.44	82	76	27.29	76	72	81	0	0	0	....	Hazy	....	Cumulus	1-4	W.	....	....	....	....	Fair.
	6 0 p. m.	27.45	81	73	27.30	73	71	95	0	0	0	....	Hazy	....	Cumulus	1-4	0	....	....	....	....	Fair.
	7 0 p. m.	27.45	78	69	27.31	69	68	95	0	0	0	....	Stratus	3-4	Hidden	....	....	....	....	....	....	Cloudy.
	8 0 p. m.	27.46	77	68	27.32	68	67	95	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	9 0 p. m.	27.46	76	66	27.32	66	65	94	0	0	0	....	Stratus	1-4	0	0	0	....	....	....	....	Fair.
	10 0 p. m.	27.45	74	66	27.32	66	64	89	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	10 39 p. m.	27.44	73	65	27.31	65	63	89	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	12 0 p. m.	27.44	72	65	27.31	65	64	94	0	0	0	....	Stratus	1-4	0	0	0	....	....	....	....	Fair.
Knoxville, Tenn.	2 0 p. m.	29.18	87	88	29.019	87	74	53	S. W.	8	.32	....	Stratus	1-4	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	4 7 p. m.	29.14	84	82	28.986	81	74	70	W.	12	.72	....	Stratus	1-4	Cirrus	3-4	0	....	....	....	....	Cloudy.
	9 0 p. m.	29.13	80	78	28.987	77	72	77	S. W.	4	.08	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	10 32 p. m.	29.13	79	76	28.989	75	72	85	S. W.	8	.32	....	Stratus	3-4	Hazy	....	....	....	....	....	....	Cloudy.

Meteorological record for August 26, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from.)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 75	63	57	23. 67	57	57	100	N. W.	18	1. 62	....	Fog....	....	Hidden ...	....	....	....	....	....	....	Foggy.
	2 0 a. m.	23. 76	62	57	23. 68	57	57	100	N. W.	20	2. 00	....	Fog....	....	Hidden ...	....	....	....	....	....	....	Foggy.
	3 0 a. m.	23. 76	62	57	23. 68	57	57	100	N. W.	20	2. 00	....	Fog....	....	Hidden ...	....	....	....	....	....	....	Foggy.
	4 0 a. m.	23. 75	61	56	23. 67	56	56	100	N. W.	20	2. 00	....	Fog....	....	Hidden ...	....	....	....	....	....	....	Foggy.
	5 0 a. m.	23. 75	61	56	23. 67	56	56	100	N. W.	20	2. 00	....	Fog....	....	Hidden ...	....	....	....	....	....	....	Foggy.
	6 0 a. m.	23. 76	63	57	23. 68	57	57	100	N. W.	24	2. 88	....	Fog....	....	Hidden ...	....	....	....	....	....	....	Foggy.
	7 14 a. m.	23. 77	64	57	23. 69	57	57	100	N. W.	20	2. 00	....	Fog....	....	Hidden ...	....	....	....	....	....	....	Foggy.
	8 0 a. m.	23. 77	62	57	23. 60	57	57	100	N. W.	22	2. 42	....	Fog....	....	Hidden ...	....	....	....	....	....	....	Foggy.
	9 0 a. m.	23. 78	63	58	23. 70	58	58	100	N. W	16	1. 28	....	Fog....	....	Hidden ...	....	....	....	....	....	....	Foggy.
	10 0 a. m.	23. 79	64	60	23. 71	60	59	94	N. W.	20	2. 00	....	Hazy ...	....	Cumulus..	3-4	N. W.	....	....	....	....	Cloudy.
	11 0 a. m.	23. 80	65	61	23. 71	61	59	88	N. W.	8	. 32	....	Hazy ...	....	Cumulus..	3-4	N. W.	....	....	....	....	Cloudy.
	12 0 m.	23. 80	68	62	23. 71	62	60	88	N. W.	12	. 72	342	Hazy ...	....	Cumulus..	3-4	N. W.	....	....	....	....	Cloudy.
Base of Mount Mitchell, N. C.	1 0 a. m.	27. 42	71	65	27. 29	65	63	89	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	2 0 a. m.	27. 40	71	65	27. 27	65	63	89	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	3 0 a. m.	27. 40	70	66	27. 28	66	64	79	S. E.	2	. 02	....	Stratus .	3-4	0	0	0	....	....	....	....	Fair.
	4 0 a. m.	27. 40	71	62	27. 27	62	61	94	E.	4	. 08	....	Stratus .	1-4	0	0	0	....	....	....	....	Fair.
	5 0 a. m.	27. 40	72	71	27. 27	71	66	75	N. E.	4	. 08	....	Stratus .	2-4	Cumulus..	1-4	0	....	....	....	....	Fair.
	6 0 a. m.	27. 42	72	71	27. 29	71	68	85	N. E.	1	. 01	....	0	0	Cumulus..	3-4	W.	....	....	....	....	Fair.
	7 14 a. m.	27. 42	73	74	27. 29	74	69	76	0	0	0	....	0	0	Cir. & cu..	3-4	W.	....	....	....	....	Fair.
	8 0 a. m.	27. 42	74	72	27. 29	72	68	72	E.	4	. 08	....	0	0	Cir. & cu..	3-4	W.	....	....	....	....	Cloudy.
	9 0 a. m.	27. 43	75	79	27. 29	79	71	66	E.	3	. 04	....	0	0	Cir. & cu..	3-4	W.	....	....	....	....	Fair.
	10 0 a. m.	27. 44	77	80	27. 30	80	70	58	E.	2	. 02	....	0	0	Cir. & cu..	3-4	N. W.	....	....	....	....	Fair.
	11 0 a. m.	27. 43	79	78	27. 28	78	69	61	0	0	0	....	0	0	Cirrus ... Cumulus.	1-4 2-4	E. W.	....	....	....	....	Fair.
	12 0 m.	27. 43	80	81	27. 28	81	70	55	0	0	0	10	0	0	Cirrus ... Cumulus.	1-4 2-4	E. W.	....	....	....	....	Fair.
Knoxville, Tenn	7 0 a. m.	29. 15	77	74	29. 014	73	71	90	0	0	0	....	Hazy....	....	Cir.-cum ..	2-4	W.	....	....	....	....	Fair.
	7 7 a. m.	29. 15	77	74	29. 014	73	71	90	0	0	0	....	Hazy....	....	Cir.-cum ..	2-4	W.	....	....	....	....	Fair.
	11 32 a. m.	29. 15	85	85	28. 994	85	75	61	S. W.	12	. 72	142	0	0	Cumulus..	2-4	N. W.	....	....	....	....	Fair.

Meteorological record for August 26, 1873—Continued.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 p. m.	23.79	71	64	23.69	64	60	78	N. W.	12	.72	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	2 0 p. m.	23.77	69	66	23.68	66	62	79	N. W.	18	.32	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	3 0 p. m.	23.75	67	65	23.66	65	61	78	N. W.	12	.72	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	4 14 p. m.	23.75	69	64	23.66	64	61	83	N. W.	4	.08	....	Hazy	....	Cumulus	3-4	N W.	....	....	....	....	Cloudy.
	5 0 p. m.	23.76	68	62	23.67	62	60	88	N. W.	6	.18	....	Hazy	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	6 0 p. m.	23.75	68	59	23.66	59	58	94	N. W.	12	.72	....	Hazy	....	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	7 0 p. m.	23.76	65	53	23.67	53	53	100	N. W.	24	2.88	....	Nimbus	4-4	Hidden	....	....	6.40 p. m.	....	.05	....	Heavy rain.
	8 0 p. m.	23.75	66	55	23.66	55	55	100	N. W.	20	2.00	....	Fog	....	Hidden	....	....	....	7.20 p. m.	.06	....	Foggy.
	9 0 p. m.	23.75	68	56	23.66	56	55.5	97	N. W.	20	2.00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 p. m.	23.74	66	57	23.64	57	56	94	N. W.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 39 p. m.	23.73	64	57	23.65	57	56	94	N. W.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 p. m.	23.70	62	56	23.62	56	56	100	N. W.	20	2.00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
Base of Mount Mitchell, N. C.	1 0 p. m.	27.44	82	82	27.29	82	70	52	0	0	0	....	0	0	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	2 0 p. m.	27.41	84	83	27.25	83	70	49	0	0	0	....	0	0	Cumulus	3-4	W.	....	....	....	....	Fair.
	3 0 p. m.	27.40	87	83	27.24	83	73	60	N. E.	2	.02	....	0	0	Cumulus	2-4	W.	....	....	....	....	Fair.
	4 14 p. m.	27.38	85	80	27.22	80	73	70	N. E.	1	.01	....	0	0	Cumulus	2-4	N. E	....	....	....	....	Fair.
	5 0 p. m.	27.41	84	77	27.25	77	73	82	0	0	0	....	0	0	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	6 0 p. m.	27.38	81	71	27.23	71	70	95	0	0	0	....	Stratus	1-4	Cumulus	1-4	N. W.	....	....	....	....	Fair.
	7 0 p. m.	27.39	79	69	27.24	69	68	95	0	0	0	....	Stratus	1-4	Cumulus	1-4	W.	....	....	....	....	Fair.
	8 0 p. m.	27.42	75	64	27.28	64	62	89	0	0	0	....	Nimbus	4-4	Hidden	....	....	7.30 p. m.	....	.14	....	Light rain.
	9 0 p. m.	27.39	74	64	27.26	64	62	89	0	0	0	....	Stratus	4-4	Hidden	....	....	....	8.10 p. m.	....	....	Cloudy.
	10 0 p. m.	27.39	72	62	27.26	62	61	94	0	0	0	....	Stratus	2-4	0	0	0	....	....	....	....	Fair.
	10 39 p. m.	27.35	71	62	27.22	62	61	94	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	12 0 p. m.	27.37	70	63	27.25	63	62	94	0	0	0	....	Stratus	2-4	0	0	0	....	....	....	....	Fair.
Knoxville, Tenn.	2 0 p. m.	29.10	88	89	28.936	88	73	46	W.	10	.50	....	0	0	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	4 7 p. m.	29.07	88	90	28.906	89	75	49	S. W.	12	.72	....	0	0	Cu. & cir.	2-4	W.	....	....	....	....	Fair.
	9 0 p. m.	29.09	77	70	28.954	69	68	95	S. W.	4	.08	....	Stratus	4-4	Hazy	....	....	....	....	....	....	Cloudy.
	10 32 p. m.	29.10	78	70	28.962	69	68	95	S.	4	.08	....	Stratus	4-4	Hidden	....	....	7.30 p. m.	9.00 p. m.	.74	....	Cloudy.

Meteorological record for August 27, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.70	61	56	23.62	56	56	100	N. W.	20	2.00	....	Fog	....	Hidden ..	....	......	....	....	....	....	Foggy.
	2 0 a. m.	23.69	60	55	23.61	55	55	100	N. W.	16	1.28	....	Fog	....	Hidden ..	....	......	....	....	....	....	Foggy.
	3 0 a. m.	23.69	60	55	23.61	55	55	100	N. W.	20	2.00	....	Fog	....	Hidden ..	....	......	....	....	....	....	Foggy.
	4 0 a. m.	23.68	60	54	23.60	54	54	100	N. W.	20	2.00	....	Fog	....	Hidden ..	....	......	....	....	....	....	Foggy.
	5 0 a. m.	23.69	61	55	23.61	55	55	100	N. W.	20	2.00	....	Fog	....	Hidden ..	....	......	....	....	....	....	Foggy.
	6 0 a. m.	23.71	66	55	23.62	55	55	100	N. W.	16	1.28	....	Fog	....	Hidden ..	....	......	....	....	....	....	Foggy.
	7 14 a. m.	23.73	63	54	23.65	54	53	93	N. W.	16	1.28	....	Hazy	....	Cumulus.	3-4	N. W.	....	....	....	....	Cloudy.
	8 0 a. m.	23.74	62	56	23.66	56	54	87	N. W.	12	.72	....	Hazy	....	Cumulus.	3-4	N. W.	....	....	....	....	Cloudy.
	9 0 a. m.	23.76	64	57	23.68	57	54	81	N. W.	14	.98	....	Hazy	....	Cumulus.	2-4	N. W.	....	....	....	....	Fair.
	10 0 a. m.	23.75	62	58	23.67	58	54	76	N. W.	12	.72	....	Hazy	....	Cir. & cu.	2-4	W.	....	....	....	....	Fair.
	11 0 a. m.	23.78	64	62	23.70	62	58	77	N. W.	12	.72	....	Hazy	....	Cir. & cu.	2-4	0	....	....	....	....	Fair.
	12 0 m ..	23.78	68	62	23.69	62	58	77	N. W.	8	.32	358	Hazy	....	Cir. & cu.	2-4	N. W.	....	....	....	....	Fair.
Base of Mount Mitchell, N. C.	1 0 a. m.	27.36	70	62	27.24	62	61	94	0	0	0	....	Stratus ...	2-4	0	0	0	....	....	....	....	Fair.
	2 0 a. m.	27.35	70	63	27.23	63	61	89	0	0	0	....	Stratus ...	4-4	Hidden ..	....	......	....	....	....	....	Cloudy.
	3 0 a. m.	27.35	70	62	27.23	62	61	94	0	0	0	....	Stratus ...	4-4	Hidden ..	....	......	....	....	....	....	Cloudy.
	4 0 a. m.	27.36	69	63	27.24	63	62	94	0	0	0	....	Stratus ...	4-4	Hidden ..	....	......	....	....	....	....	Cloudy.
	5 0 a. m.	27.36	69	63	27.24	63	62	94	0	0	0	....	Fog	....	Cir. & cu.	2-4	W.	....	....	....	....	Fair.
	6 0 a. m.	27.37	68	63	27.25	63	61	89	0	0	0	....	Fog	....	Cumulus.	1-4	W.	....	....	....	....	Fair.
	7 14 a. m.	27.36	69	69	27.24	69	66	85	E.	1	.01	....	0	0	Cir. & cu.	3-4	W.	....	....	....	....	Fair.
	8 0 a. m.	27.38	71	73	27.25	73	69	80	E.	1	.01	....	0	0	Cir. & cu.	3-4	W.	....	....	....	....	Fair.
	9 0 a. m.	27.40	73	72	27.27	72	69	85	0	0	0	....	Stratus ...	1-4	Cirrus ...	2-4	W.	....	....	....	....	Fair.
	10 0 a. m.	27.42	75	78	27.28	78	69	61	E.	1	.01	....	Stratus ...	1-4	Cirrus ...	2-4	W.	....	....	....	....	Fair.
	11 0 a. m.	27.43	77	79	27.29	79	68	54	E.	1	.01	....	0	0	Cir. & cu.	3-4	W.	....	....	....	....	Fair.
	12 0 m ..	27.42	80	80	27.27	80	69	55	E.	1	.01	10	0	0	Cir. & cu.	2-4	W.	....	....	....	....	Fair.
Knoxville, Tenn.	7 0 a. m.	29.12	75	70	28.992	69	67	90	S.	3	.04	....	Stratus ...	1-4	Cirrus ...	4-4	0	....	....	....	....	Clearing.
	7 7 a. m.	29.12	75	70	28.992	69	67	90	S.	4	.08	....	Stratus ...	1-4	Cirrus ...	4-4	0	5.10 a. m.	5.25 a. m.	.04	....	Clearing.
	11 32 a. m.	29.14	81	80	28.994	79	72	69	S.	4	.08	168	0	0	Cirrus ...	1-4	0	0	....	...	....	Fair.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM. Attached.	THERM. Exposed.	Corrected barometer.	HYGROM. Dry bulb.	HYGROM. Wet bulb.	Relative humidity.	WIND. Direction.	WIND. Velocity per hour.	WIND. Pressure per sq. ft.	WIND. Daily velocity.	LOWER CLOUDS. Kind.	LOWER CLOUDS. Amount.	UPPER CLOUDS. Kind.	UPPER CLOUDS. Amount.	UPPER CLOUDS. Direction, (moving from—)	RAIN OR SNOW. Commen'd.	RAIN OR SNOW. Ended.	Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
Summit of Mount Mitchell, N. C.	1 0 p. m.	23.78	70	64	23.68	64	59	73	N. W.	8	.32	....	Hazy	....	Cir. & cu.	2-4	0	....	....	....	....	Fair.
	2 0 p. m.	23.78	70	68	23.68	68	60	60	W.	4	.08	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	3 0 p. m.	23.77	68	63	23.68	63	58	72	W.	4	.08	....	Hazy	....	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	4 14 p. m.	23.76	66	62	23.67	62	59	83	W.	4	.08	....	Hazy	....	Cumulus	2-4	W.	....	....	....	....	Cloudy.
	5 0 p. m.	23.77	65	61	23.68	61	59	88	W.	2	.02	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 p. m.	23.76	68	59	23.67	59	57	88	W.	4	.08	....	Hazy	...	Cir. & cu.	3-4	0	....	....	....	....	Cloudy.
	7 0 p. m.	23.77	65	57	23.68	57	54	81	W.	2	.02	....	0	0	Cumulus	4-4	0	....	....	....	....	Cloudy.
	8 0 p. m.	23.79	69	57	23.70	57	56	94	W.	4	.08	....	0	0	Cumulus	4-4	0	....	....	....	....	Cloudy.
	9 0 p. m.	23.79	68	56	23.70	56	55	94	W.	4	.08	....	0	0	Cumulus	4-4	0	....	....	....	....	Cloudy.
	10 0 p. m.	23.80	68	56	23.71	56	55	94	S. W.	4	.08	....	Light fog	....	Cumulus	4-4	0	....	....	....	....	Cloudy.
	10 39 p. m.	23.79	66	55	23.70	55	55	100	S. W.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 p. m.	23.79	69	55	23.70	55	55	100	S. W.	4	.08	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
Base of Mount Mitchell, N. C.	1 0 p. m.	27.43	82	81	27.28	81	70	55	0	0	0	....	0	0	Cirrus	2-4	N. W.	....	....	....	....	Fair.
	2 0 p. m.	27.40	84	81	27.24	81	71	59	E.	2	.02	....	0	0	Cumulus	2-4	W.	....	....	....	....	Fair.
	3 0 p. m.	27.40	85	80	27.24	80	70	58	0	0	0	....	0	0	Cumulus	2-4	W.	....	....	....	....	Fair.
	4 14 p. m.	27.40	83	78	27.24	78	71	69	0	0	0	....	Stratus	1-4	Cumulus	2-4	W.	....	....	....	....	Fair.
	5 0 p. m.	27.40	80	75	27.25	75	71	81	0	0	0	....	Stratus	3-4	Cirrus	1-4	0	....	....	....	....	Cloudy.
	6 0 p. m.	27.39	79	72	27.24	72	71	95	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	7 0 p. m.	27.41	77	69	27.27	69	67	90	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	8 0 p. m.	27.41	76	68	27.27	68	66	89	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	9 0 p. m.	27.42	75	67	27.28	67	66	95	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	10 0 p. m.	27.44	74	68	27.31	68	66	89	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	10 39 p. m.	27.44	74	68	27.31	68	66	89	0	0	0	....	Nimbus	4-4	Hidden	....	....	10.37 p. m.	....	....	....	Heavy rain.
	12 0 p. m.	27.43	73	66	27.30	66	65	94	0	0	0	....	Stratus	4-4	Hidden	....	....	....	11.15 p. m.	.17	....	Cloudy.
Knoxville, Tenn.	2 0 p. m.	29.10	83	84	28.949	83	71	53	S.	4	.08	....	Stratus	1-4	Cir. & cu.	3-4	W.	....	....	....	....	Cloudy.
	4 7 p. m.	29.09	82	80	28.942	79	71	65	N. W.	8	.32	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	9 0 p. m.	29.13	77	72	28.994	71	69	90	S. W.	4	.08	....	Stratus	1-4	Hazy	....	....	....	....	....	....	Fair.
	10 32 p. m.	29.10	77	71	28.964	70	68	90	S. W.	6	.18	....	Stratus	1-4	0	0	0	....	....	....	....	Fair.

Meteorological record for August 28, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.77	66	54	23.68	54	54	100	S. W.	4	.08	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 a. m.	23.76	64	54	23.68	54	54	100	S. W.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 a. m.	23.76	67	53	23.67	53	53	100	S. W.	4	.08	....	Light fog	....	Cumulus	2-4	0	....	....	....	....	Fair.
	4 0 a. m.	23.77	65	53	23.68	53	53	100	S. W.	8	.32	....	Light fog	....	Cir. & cu.	3-4	0	....	....	....	....	Foggy.
	5 0 a. m.	23.79	62	53	23.71	53	52	93	S. W.	10	.50	....	Hazy	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	6 0 a. m.	23.79	60	54	23.71	54	53	93	S. W.	16	1.28	....	Fog	....	Cumulus	3-4	0	....	....	....	....	Foggy.
	7 14 a. m.	23.79	39	54	23.72	54	53.5	97	S. W.	8	.32	....	Fog	....	Cumulus	3-4	S.	....	....	....	....	Foggy.
	8 0 a. m.	23.79	60	55	23.71	55	55	100	S. W.	4	.08	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 a. m.	23.81	60	56	23.73	56	56	100	S. W.	4	.08	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 a. m.	23.81	61	58	23.73	58	56.5	91	S. W.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	11 0 a. m.	23.82	66	50	23.73	59	58	94	S. E.	6	.18	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	12 0 m ..	23.82	63	57	23.74	57	56	94	E.	4	.08	146	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
Base of Mount Mitchell, N. C.	1 0 a. m.	27.44	72	65	27.31	65	64	94	E.	1	.01	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	2 0 a. m.	27.44	71	65	27.31	65	64	94	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	3 0 a. m.	27.45	70	65	27.33	65	63	89	0	0	0	....	Stratus	4-4	Hidden	....	....	2.50 a. m.	....	....	....	Light rain.
	4 0 a. m.	27.45	71	64	27.32	64	63	94	0	0	0	....	Stratus	4-4	Hidden	....	....	....	3.10 a. m.	.01	....	Cloudy.
	5 0 a. m.	27.46	71	64	27.33	64	63	94	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	6 0 a. m.	27.46	70	64	27.34	64	63	94	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	7 14 a. m.	27.49	69	65	27.37	65	63	80	S.	1	.01	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	8 0 a. m.	27.50	69	64	27.38	64	63	94	0	0	0	...	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	9 0 a. m.	27.52	70	65	27.40	63	63	89	E.	2	.02	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	10 0 a. m.	27.53	69	65	27.41	65	63	89	E.	1	.01	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	11 0 a. m.	27.53	69	66	27.41	66	64	89	S. E.	4	.08	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Light rain.
	12 0 m ..	27.53	69	65	27.41	65	63	89	0	0	0	7	Nimbus	4-4	Hidden	....	....	12.00 m.	....	....	....	
Knoxville, Tenn.	7 0 m ..	29.17	75	69	29.040	68	66	90	W.	3	.04	....	0	0	Cirrus	1-4	S. W.	....	....	....	....	Fair.
	7 7 a. m.	29.17	75	69	29.040	68	66	90	W.	3	.04	....	0	0	Cirrus	1-4	S. W.	....	....	....	....	Fair.
	11 32 a. m.	29.20	81	79	29.054	78	70	65	S.	10	.50	114	0	0	Cumulus	4-4	W.	....	....	....	....	Cloudy.

Meteorological record for August 28, 1873—Continued.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'en'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 p. m.	23. 83	65	60	23. 74	60	59	94	S. E.	6	. 18	....	Fog.......	....	Hidden .	....	......	....	....	....	....	Foggy.
	2 0 p. m.	23. 81	66	58	23. 72	58	57	94	S. E.	4	. 08	....	Fog.......	....	Hidden .	....	......	....	....	....	....	Foggy.
	3 0 p. m.	23. 80	63	60	23. 72	60	58	88	S. W.	8	. 32	....	Fog.......	....	Hidden .	....	......	....	....	....	....	Foggy.
	4 14 p. m.	23. 81	66	56	23. 72	56	55.	94	S. E.	4	. 08	....	Fog.......	....	Hidden .	....	......	....	....	....	....	Foggy.
	5 0 p. m.	23. 80	65	55	23. 71	55	55	100	N. E.	2	. 02	....	Fog.......	....	Hidden .	....	......	....	....	....	....	Foggy.
	6 0 p. m.	23. 81	63	53	23. 73	53	53	100	E.	8	. 32	....	Nimbus...	4-4	Hidden .	....	......	5.37 p. m.	....	. 11	....	Light rain.
	7 0 p. m.	23. 82	65	52	23. 73	52	52	100	E.	16	1. 28	....	Nimbus...	4-4	Hidden .	....	......	....	....	. 13	....	Light rain.
	8 0 p. m.	23. 83	64	51	23. 75	51	51	100	E.	14	. 98	....	Nimbus...	4-4	Hidden .	....	......	....	....	. 09	....	Light rain.
	9 0 p. m.	23. 84	67	50	23. 75	50	49. 5	96	S. E.	8	. 32	....	Light fog	....	Cumulus	2-4	0	....	8.10 p. m.	. 01	....	Fair.
	10 0 p. m.	23. 86	66	50	23. 77	50	49	93	S. E.	10	. 50	....	Light fog	....	0	0	0	....	....	....	....	Fair.
	10 39 p. m.	23. 86	66	51	23. 77	51	50	93	E.	2	. 02	....	Light fog	....	0	0	0	....	....	....	....	Fair.
	12 0 p. m.	23. 86	67	50	23. 77	50	49	93	E.	2	. 02	....	Fog.......	....	0	0	0	....	....	....	....	Foggy.
Base of Mount Mitchell, N. C.	1 0 p. m.	27. 53	69	66	27. 41	66	64	89	S. E.	1	. 01	....	Nimbus...	4-4	Hidden .	....	......	....	1.30 p. m.	. 02	....	Light rain.
	2 0 p. m.	27. 50	70	69	27. 38	69	67	90	0	0	0	....	Stratus ...	4-4	Hidden .	....	......	....	....	....	....	Cloudy.
	3 0 p. m.	27. 49	69	67	27. 37	67	65	89	E.	1	. 01	....	Stratus ...	4-4	Hidden .	....	......	....	....	....	....	Cloudy.
	4 14 p. m.	27. 49	70	65	27. 37	65	64	94	S. E.	1	. 01	....	Stratus ...	4-4	Hidden .	....	......	....	....	....	....	Cloudy.
	5 0 p. m.	27. 50	70	65	27. 38	65	63	89	0	0	0	....	Stratus ...	4-1	Hidden .	....	......	....	....	....	....	Cloudy.
	6 0 p. m.	27. 50	70	65	27. 38	65	64	94	0	0	0	....	Stratus ...	4-4	Hidden .	....	......	....	....	....	....	Threatening.
	7 0 p. m.	27. 52	69	63	27. 40	63	62	94	0	0	0	....	Nimbus...	4-4	Hidden .	....	......	6.10 p. m.	....	. 02	....	Drizzling rain..
	8 0 p. m.	27. 53	69	63	27. 41	63	62	94	0	0	0	....	Nimbus...	4-4	Hidden .	....	......	....	8.15 p. m.	. 01	....	Drizzling rain.
	9 0 p. m.	27. 55	68	63	27. 43	63	68	94	0	0	0	....	Stratus ...	4-4	Hidden .	....	......	....	....	....	....	Cloudy.
	10 0 p. m.	27. 55	68	63	27. 43	63	62	94	0	0	0	....	Nimbus...	4-4	Hidden .	....	......	....	....	....	....	Misting.
	10 39 p. m.	27. 55	68	63	27. 43	63	62	94	0	0	0	....	Stratus ...	4-4	Hidden .	....	......	....	....	....	....	Cloudy.
	12 0 p. m.	27. 56	67	62	27. 44	62	61	94	0	0	0	....	Stratus ...	4-4	Hidden .	....	......	....	....	....	....	Cloudy.
Knoxville, Tenn.	2 0 p. m.	29. 09	82	81	29. 942	80	70	58	S. W.	10	. 50	....	0	0	Cumulus	4-4	S.	....	....	....	....	Cloudy.
	4 7 p. m.	29. 16	82	81	29. 012	80	73	66	S. W.	8	. 32	....	0	0	Cumulus	4-4	S. W.	....	....	....	....	Cloudy.
	9 0 p. m.	29. 17	78	74	29. 032	73	71	90	S. W.	6	. 18	....	Stratus ...	1-4	0	0	0	....	....	....	....	Fair.
	10 32 p. m.	29. 21	77	72	29. 074	71	69	90	0	0	0	....	Stratus ...	4-4	Hidden .	....	......	....	....	....	....	Cloudy.

Meteorological record for August 29, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.85	68	50	23.76	50	50	100	0	0	0	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 a. m.	23.83	63	49	23.75	49	49	100	S. W.	18	1.62	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	3 0 a. m.	23.83	64	50	23.75	50	49	93	S. W.	18	1.62	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	4 0 a. m.	23.84	61	50	23.76	50	49	93	S. W.	12	.72	....	Light fog	....	Cirrus	1-4	0	....	....	....	....	Fair.
	5 0 a. m.	23.85	61	51	23.77	51	50	93	S. W.	12	.72	....	Light fog	....	Cirrus	3-4	0	....	....	....	....	Foggy.
	6 0 a. m.	23.86	57	51	23.79	51	50	93	S. W.	16	1.28	....	Light fog	....	Cir. & cu.	3-4	S. W.	....	....	....	....	Cloudy.
	7 14 a. m.	23.88	60	53	23.80	53	52.5	97	S. W.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 a. m.	23.89	61	55	23.81	55	54	93	S. W.	8	.32	....	Light fog	..	Cumulus	1-4	0	....	....	....	....	Fair.
	9 0 a. m.	23.90	60	56	23.82	56	55	94	S. W.	4	.08	....	0	0	Cumulus	3-4	0	....	....	....	....	Cloudy.
	10 0 a. m.	23.91	60	60	23.83	60	58	88	S. W.	4	.08	....	Fog	....	Cumulus	3-4	S. W.	....	....	....	....	Cloudy.
	11 0 a. m.	23.92	60	60	23.84	60	57	82	S. W.	6	.18	....	Fog	....	Cumulus	3-4	S. W.	....	....	....	....	Cloudy.
	12 0 m	23.90	61	59	23.82	59	56	82	S. W.	4	.08	202	Light fog	....	Cumulus	3-4	S. W.	....	....	....	....	Cloudy.
Base of Mount Mitchell, N. C.	1 0 a. m.	27.56	67	62	27.44	62	61	94	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	2 0 a. m.	27.55	66	61	27.44	61	60	94	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	3 0 a. m.	27.55	66	61	27.44	61	60	94	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	4 0 a. m.	27.58	66	61	27.47	61	60	94	0	0	0	...	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	5 0 a. m.	27.57	66	61	27.46	61	60	94	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	6 0 a. m.	27.59	66	61	27.48	61	60	94	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	7 14 a. m.	27.59	66	63	27.48	63	61	88	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	8 0 a. m.	27.60	66	64	27.49	64	61	83	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	9 0 a. m.	27.61	67	65	27.49	65	62	84	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	10 0 a. m.	27.61	68	68	27.49	68	64	79	0	0	0	....	0	0	Cumulus	3-4	N.	....	....	....	....	Fair.
	11 0 a. m.	27.62	71	72	27.49	72	67	76	E.	1	.01	....	0	0	Cumulus	3-4	W.	....	....	....	....	Fair.
	12 0 m	27.62	72	71	27.49	71	66	75	0	0	0	11	Stratus	2-4	Cumulus	2-4	0	....	....	....	....	Cloudy.
Knoxville, Tenn.	7 0 a. m.	29.30	73	67	29.177	66	65	92	N. E.	5	.12	....	Stratus	1-4	Cumulus	3-4	S. W.	....	....	....	....	Cloudy.
	7 7 a. m.	29.30	73	67	29.177	66	65	92	N. E.	5	.12	....	Stratus	1-4	Cumulus	3-4	S. W.	....	....	....	....	Cloudy.
	11 32 a. m.	29.34	81	79	29.193	78	70	65	S. W.	12	.72	161	0	0	Cumulus	4-4	S. W.	....	....	....	....	Cloudy.

Meteorological record for August 29, 1873—Continued.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 p. m.	23. 90	64	60	23. 82	60	56	77	S.W.	2	.02	....	Light fog	......	Cumulus	3-4	S.W.	....	....	....	....	Cloudy.
	2 0 p. m.	23. 90	63	60	23. 82	60	57	82	S.W.	4	.02	....	Light fog	......	Cumulus	3-4	S.W.	....	....	....	....	Cloudy.
	3 0 p. m.	23. 91	66	62	23. 82	62	58	77	W.	6	.18	....	Light fog	......	Cumulus	3-4	S.W.	....	....	....	....	Cloudy.
	4 14 p. m.	23. 90	61	58	23. 82	58	53	70	W.	14	.98	....	Light fog	......	Cir. & cu	4-4	W.	3.15 p. m.	3.40 p. m.	.06	....	Cloudy.
	5 0 p. m.	23. 89	61	57	23. 81	57	52	69	W.	8	.32	....	0	0	Cirrus...	2-4	0	....	....	....	....	Fair.
	6 0 p. m.	23. 90	61	55	23. 82	55	52	81	W.	4	.08	....	0	0	Cir. & cu	2-4	0	....	....	....	....	Fair.
	7 0 p. m.	23. 90	60	52	23. 82	52	50	86	S.W.	12	.72	....	0	0	Cir. & cu	2-4	S.W.	....	....	....	....	Cloudy.
	8 0 p. m.	23. 92	61	52	23. 84	52	49	79	S.W.	10	.50	....	0	0	Cumulus	3-4	0	....	....	....	....	Cloudy.
	9 0 p. m.	23. 94	60	51	23. 86	51	49	86	S.W.	12	.72	....	0	0	Cir. & cu	2-4	0	....	....	....	....	Fair.
	10 0 p. m.	23. 93	60	52	23. 85	52	50	86	S.W.	13	.72	....	0	0	Cir. & cu	2-4	0	....	....	....	....	Fair.
	10 39 p. m.	23. 93	60	52	23. 85	52	51	93	S.W.	16	1. 28	....	Light fog	......	0	0	0	....	....	....	....	Fair.
	12 0 p. m.	23. 91	59	51	23. 84	51	50	93	S.W.	16	1. 28	....	0	0	Cirrus...	1-4	0	....	....	....	....	Fair.
Base of Mount Mitchell, N. C.	1 0 p. m.	27. 62	73	72	27. 49	72	67	76	E.	1	.01	....	Stratus..	4-4	Hidden..	....	......	....	....	....	....	Cloudy.
	2 0 p. m.	27. 61	74	70	27. 48	70	66	80	E.	1	.01	....	Stratus..	4-4	Hidden..	....	......	....	....	....	....	Cloudy.
	3 0 p. m.	27. 61	74	71	27. 48	71	67	80	S. E.	1	.01	....	Stratus..	1-4	Cumulus	3-4	S.	....	....	....	....	Cloudy.
	4 14 p. m.	27. 60	74	68	27. 47	68	65	84	S. E.	1	.01	....	Stratus..	1-4	Cumulus	3-4	S. E.	....	....	....	....	Cloudy.
	5 0 p. m.	27. 60	73	69	27. 47	69	65	80	0	0	0	....	Stratus..	4-4	Hidden..	....	......	....	....	....	....	Cloudy.
	6 0 p. m.	27. 59	72	68	27. 46	68	65	84	0	0	0	....	Stratus..	4-4	Hidden..	....	......	....	....	....	....	Cloudy.
	7 0 p. m.	27. 60	72	67	27. 47	67	66	95	0	0	0	....	Stratus..	4-4	Hidden..	....	......	....	....	....	....	Cloudy.
	8 0 p. m.	27. 63	72	67	27. 50	67	65	89	0	0	0	....	Stratus..	4-4	Hidden..	....	......	....	....	....	....	Cloudy.
	9 0 p. m.	27. 63	72	66	27. 50	66	63	84	0	0	0	....	Stratus..	1-4	0	0	0	....	....	....	....	Fair.
	10 0 p. m.	27. 63	71	64	27. 50	64	62	89	0	0	0	....	Stratus..	2-4	0	0	0	....	....	....	....	Fair.
	10 39 p. m.	27. 63	70	63	27. 51	63	61	89	0	0	0	....	Stratus..	2-4	0	0	0	....	....	....	....	Fair.
	12 0 p. m.	27. 62	69	62	27. 50	62	60	88	0	0	0	...	Stratus..	2-4	0	0	0	....	....	....	....	Fair.
Knoxville, Tenn.	2 0 p. m.	29. 30	82	83	29. 151	83	71	53	S.W.	12	.72	....	0	0	Cumulus	2-4	S.W.	....	....	....	....	Fair.
	4 7 p. m.	29. 29	84	85	29. 135	84	71	50	S.	8	.32	....	0	0	Cumulus	1-4	S.W.	....	....	....	....	Fair.
	9 0 p. m.	29. 31	78	75	29. 170	74	70	81	S.W.	6	.18	....	0	0	Hazy....	....	......	....	....	....	....	Fair.
	10 32 p. m.	29. 32	79	75	29. 179	74	70	81	S.W.	8	.32	....	0	0	0	0	0	....	....	....	....	Clear.

Meteorological record for August 30, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.91	60	51	23.83	51	50	93	S.W.	14	.98	....	Light fog	....	Cirrus	1-4	0	....	....	....	....	Fair.
	2 0 a. m.	23.90	59	51	23.83	51	50	93	S.W.	16	1.28	....	Fog	....	Cirrus	1-4	0	....	....	....	....	Fair.
	3 0 a. m.	23.90	58	51	23.83	51	51	100	S.W.	10	.50	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 0 a. m.	23.90	58	51	23.83	51	51	100	S.W.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 a. m.	23.90	57	52	23.83	52	52	100	S.W.	14	.98	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 a. m.	23.91	57	51	23.84	51	51	100	S.W.	14	.98	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 14 a. m.	23.93	63	52	23.85	52	52	100	N. W.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 a. m.	23.95	64	53	23.87	53	53	100	N. W.	10	.50	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 0 a. m.	23.96	65	53	23.87	53	53	100	N. W.	12	.72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 a. m.	23.98	60	54	23.90	54	54	100	N. W.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	11 0 a. m.	23.97	61	60	23.89	60	59	94	N. W.	8	.32	....	Hazy	....	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	12 0 m.	23.96	62	61	23.88	61	53	83	W.	8	.32	244	Hazy	....	Cumulus	3-4	W.	....	....	....	....	Cloudy.
Base of Mount Mitchell, N. C.	1 0 a. m.	27.62	68	62	27.50	62	61	94	0	0	0	....	Stratus	2-4	0	0	0	....	....	....	....	Fair.
	2 0 a. m.	27.62	68	62	27.50	62	61	94	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	3 0 a. m.	27.62	67	62	27.50	62	61	94	0	0	0	....	Stratus	3-4	0	0	0	....	....	....	....	Cloudy.
	4 0 a. m.	27.62	67	62	27.50	62	61	94	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	5 0 a. m.	27.63	67	62	27.51	62	61	94	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	6 0 a. m.	27.64	67	62	27.52	62	61	94	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	7 14 a. m.	27.66	67	64	27.54	64	62	89	0	0	0	....	Stratus	2-4	Cumulus	1-4	W.	....	....	....	....	Fair.
	8 0 a. m.	27.66	67	66	27.54	66	63	84	0	0	0	....	Stratus	1-4	Cumulus	2-4	W.	....	....	....	....	Fair.
	9 0 a. m.	27.67	69	72	27.55	72	67	76	0	0	0	....	0	0	Cumulus	3-4	W.	....	....	....	....	Fair.
	10 0 a. m.	27.67	72	74	27.54	74	67	68	0	0	0	....	0	0	Cumulus	3-4	W.	....	....	....	....	Fair.
	11 0 a. m.	27.67	74	77	27.54	77	69	65	0	0	0	....	0	0	Cumulus	4-4	W.	....	....	....	....	Cloudy.
	12 0 m.	27.66	77	73	27.52	73	66	67	N. W.	1	.01	8	0	0	Cumulus	3-4	N. W.	....	....	....	....	Fair.
Knoxville, Tenn.	7 0 a. m.	29.39	75	71	29.258	70	68	90	S. W.	2	.02	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	7 7 a. m.	29.39	75	71	29.258	70	68	90	S.W.	2	.02	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	11 32 a. m.	29.42	83	79	29.267	78	70	65	S.W.	8	.32	148	0	0	Cumulus	3-4	W.	....	....	....	....	Cloudy.

Meteorological record for August 30, 1873—Continued.

(Hourly observations.)

Place of observation.	Time observation.	Baromer.	THERM.		Correct barom-et.	HYGROM.		Relative humidity	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attach.	Expose		Dry bul	Wet bul		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 p. m.	23.96	64	62	23.88	62	56	67	W.	9	.40	....	Hazy	....	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	2 0 p. m.	23.96	67	65	23.87	65	58	63	W.	8	.32	....	Hazy	....	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	3 0 p. m.	23.95	67	62	23.86	62	58	77	N. W.	6	.18	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	4 14 p. m.	23.93	64	59	23.85	59	56	82	W.	8	.32	....	Hazy	....	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	5 0 p. m.	23.93	65	57	23.84	57	54	81	N. W.	8	.32	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	6 0 p. m.	23.94	66	57	23.85	57	54	81	N. W.	8	.32	....	Hazy	....	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	7 0 p. m.	23.94	67	55	23.85	55	54	93	N. W.	4	.08	....	Light fog	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy
	8 0 p. m.	23.95	66	53	23.83	53	52.5	97	N. W.	6	.18	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy
	9 0 p. m.	23.93	66	53	23.86	53	52	93	N. W.	4	.08	....	Light fog	....	Cumulus	3-4	N. W.	....	....	....	....	Fair.
	10 0 p. m.	23.96	68	51	23.87	51	50	93	W.	4	.08	....	Light fog	....	0	0	0	....	....	....	....	Fair.
	10 39 p. m.	23.95	66	52	23.86	52	50	86	W.	6	.18	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	12 0 p. m.	23.94	68	51	23.85	51	50	93	W.	8	.32	....	0	0	0	0	0	....	....	....	....	Clear.
Base of Mount Mitchell, N. C.	1 0 p. m.	27.65	78	74	27.51	74	67	68	0	0	0	....	0	0	Cumulus	2-4	W.	....	....	....	....	Fair.
	2 0 p. m.	27.64	80	75	27.49	75	68	68	N.	1	.01	....	0	0	Cumulus	3-4	W.	....	....	....	....	Fair.
	3 0 p. m.	27.62	80	75	27.47	75	67	64	0	0	0	....	Hazy	....	Cumulus	3-4	W.	....	....	....	....	Fair.
	4 14 p. m.	27.60	78	75	27.46	75	68	88	0	0	0	....	Hazy	....	Cumulus	2-4	W.	....	....	....	....	Fair.
	5 0 p. m.	27.61	78	72	27.47	72	68	80	0	0	0	....	Hazy	....	Cumulus	1-4	W.	....	....	....	....	Fair.
	6 0 p. m.	27.61	77	69	27.47	69	67	90	0	0	0	....	Hazy	....	Cumulus	1-4	W.	....	....	....	....	Fair.
	7 0 p. m.	27.62	74	65	27.49	65	64	94	0	0	0	....	Hazy	....	Cumulus	1-4	0	....	....	....	....	Fair.
	8 0 p. m	27.62	72	63	27.49	63	62	94	0	0	0	....	0	0	Cumulus	1-4	W.	....	....	....	....	Fair.
	9 0 p. m.	27.63	72	60	27.50	60	59	94	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	10 0 p. m.	27.62	70	59	27.50	59	58	94	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	10 39 p. m.	27.61	69	58	27.49	58	57	94	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	12 0 p. m.	27.61	67	56	27.49	56	55	93	0	0	0	....	Hazy	....	Hazy	....	....	....	....	....	....	Clear.
Knoxville, Tenn.	2 0 p. m.	29.35	81	83	29.202	83	73	60	S.	8	.32	....	0	0	Cumulus	2-4	S. W.	....	....	....	....	Fair.
	4 7 p. m.	29.32	83	86	29.168	85	71	46	S. W.	4	.08	....	0	0	Cumulus	2-4	W.	....	....	....	....	Fair.
	9 0 p. m.	29.31	79	75	29.168	74	71	85	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	10 32 p. m.	29.31	70	72	29.168	71	69	90	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.

Meteorological record for August 31, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 93	67	52	23. 84	52	51	93	W.	10	.50	....	Light fog	...	0	0	0	....	....	....	...	Fair.
	2 0 a. m.	23. 92	66	52	23. 83	52	51	93	S.W.	12	.72	....	Light fog	....	0	0	0	....	....	....	...	Fair.
	3 0 a. m.	23. 90	65	52	23. 81	52	51	93	S.W.	12	.72	....	0	0	Cirrus...	1-4	0	....	....	....	...	Fair.
	4 0 a. m.	23. 88	62	51	23. 80	51	50	93	W.	14	.98	....	Light fog	....	Cirrus...	1-4	0	....	....	....	...	Fair.
	5 0 a. m.	23. 88	62	51	23. 80	51	50	93	W.	14	.98	....	Light fog	....	Cirrus...	1-4	0	....	....	....	...	Fair.
	6 0 a. m.	23. 88	60	52	23. 80	52	51	93	W.	14	.98	...	Fog......	....	Hidden	....	......	....	....	....	...	Foggy.
	7 14 a. m.	23. 89	65	53	23. 80	53	53	100	S.W.	16	1.28	....	Fog......	....	Hidden	....	......	....	....	....	...	Foggy.
	8 0 a. m.	23. 88	62	54	23. 80	54	53	93	W.	14	.98	....	Fog......	....	Hidden	....	......	....	....	....	...	Foggy.
	9 0 a. m.	23. 89	60	57	23. 81	57	55	87	W.	12	.72	....	Light fog	....	0	0	0	....	....	....	...	Fair.
	10 0 a. m.	23. 91	65	58	23. 82	58	55	82	W.	12	.72	....	Hazy	....	Cumulus	3-4	W.	....	....	....	...	Cloudy.
	11 0 a. m.	23. 91	67	60	23. 82	60	56	77	N. W.	8	.32	....	Hazy	....	Cumulus	3-4	N. W.	....	....	....	...	Cloudy.
	12 0 m ..	23. 91	67	60	23. 82	60	57	82	N. W.	6	.18	200	Hazy	....	Cumulus	3-4	N. W.	....	....	....	...	Cloudy.
Base of Mount Mitchell, N. C.	1 0 a. m.	27. 60	65	56	27. 49	56	55	93	0	0	0	....	Hazy	....	Hazy ...	....	......	....	....	....	...	Clear.
	2 0 a. m.	27. 59	65	56	27. 48	56	55	93	0	0	0	....	Stratus ...	4-4	Hidden	...	......	....	....	....	...	Cloudy.
	3 0 a. m.	27. 57	64	56	27. 47	56	55	93	0	0	0	....	Stratus ...	4-4	Hidden	....	......	....	....	....	...	Cloudy.
	4 0 a. m.	27. 55	63	56	27. 44	56	55	93	E.	1	.01	....	Stratus ...	4-4	Hidden	....	......	....	....	....	...	Cloudy.
	5 0 a. m.	27. 55	63	58	27. 44	58	57	94	0	0	0	....	Fog......	....	Hidden	....	......	....	....	....	...	Foggy.
	6 0 a. m.	27. 56	63	58	27. 45	58	57	94	0	0	0	....	Fog......	....	Hidden	....	......	....	....	....	...	Foggy.
	7 14 a. m.	27. 57	63	59	27. 46	59	58	94	0	0	0	....	Fog......	....	Hidden	....	......	....	....	....	...	Foggy.
	8 0 a. m.	27. 56	64	65	27. 45	65	62	84	0	0	0	....	Hazy	....	Cumulus	1-4	W.	....	....	....	...	Fair.
	9 0 a. m.	27. 56	68	75	27. 44	75	68	68	0	0	0	....	Hazy	...	Cumulus	2-4	W.	....	....	....	...	Fair.
	10 0 a. m.	27. 58	72	78	27. 45	78	68	57	N. E.	1	.01	....	0	0	Cumulus	2-4	W.	....	....	....	...	Fair.
	11 0 a. m.	27. 58	75	78	27. 44	78	68	57	N. E.	1	.01	....	0	0	Cumulus	2-4	N. W.	....	....	....	...	Fair.
	12 0 m ..	27. 57	77	79	27. 43	79	68	54	N. E.	1	.01	6	0	0	Cumulus	2-4	N. W.	....	....	....	...	Fair.
Knoxville, Tenn	7 0 a. m.	29. 30	72	68	29. 176	67	66	94	W.	1	.01	....	Fog......	....	Hidden	....	......	....	....	....	...	Foggy.
	7 7 a. m.	29. 30	72	68	29. 176	67	66	94	W.	1	.01	....	Fog......	....	Hidden	....	......	....	....	....	...	Foggy.
	11 58 a. m.	29. 27	81	83	29. 123	82	72	59	S.W.	6	.18	....	0	0	Cumulus	2-4	S.W.	....	....	....	...	Fair.

Meteorological record for August 31, 1873—Continued.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 p. m.	23.89	70	64	23.79	64	58	68	N. W.	4	.08	....	Hazy	...	Cumulus	3-4	N. W.	....	....	...	...	Cloudy.
	2 0 p. m.	23.88	70	63	23.78	63	58	72	N. W.	6	.18	....	Hazy	...	Cumulus	3-4	N. W	....	....	...	...	Cl udy.
	3 0 p. m.	23.89	72	64	23.79	64	58	68	N. W.	3	.04	....	Hazy	....	Cumulus	3-4	N. W.	....	....	...	...	Cloudy.
	4 14 p. m.	21.89	74	65	23.79	65	60	73	N. W.	4	.08	....	Hazy	....	Cumulus	2-4	N. W.	....	....	...	...	Fair,
	5 0 p. m.	21.90	76	64	23.79	64	59	72	N. W.	4	.08	....	Hazy	....	Cumulus	3-4	N. W.	....	....	...	...	Cloudy.
	6 0 p. m.	23.88	72	61	23.78	61	58	83	N. W.	4	.08	....	Hazy	....	Cumulus	2-4	0	....	....	...	...	Fair.
	7 0 p. m.	23.88	65	57	23.79	57	53	75	N. W.	4	.08	....	Hazy	....	Cir. & cu.	1-4	0	....	....	...	...	Fair.
	8 0 p m.	23.88	66	55	23.79	55	50	68	S. W.	8	.32	....	Hazy	....	0	0	0	....	....	...	...	Fair.
	9 0 p m.	23.87	64	55	23.79	55	53	87	S. W.	10	.50	....	0	0	Cumulus	1-4	0	....	....	...	...	Fair.
	10 0 p. m.	23.87	65	53	23.78	55	52	81	S. W.	8	.32	....	0	0	Cumulus	1-4	0	....	....	...	...	Fair.
	10 39 p. m.	23.88	68	55	33.79	55	53	87	S. W.	10	.50	....	0	0	Cumulus	1-4	0	....	....	...	...	Fair.
	12 0 p. m.	23.88	70	53	23.78	53	53	87	W.	12	.72	....	0	0	Cirrus ..	1-4	0	....	....	...	...	Fair.
Base of Mount Mitchell, N. C.	1 0 p. m.	27.57	80	80	27.42	80	68	51	N. E.	1	.01	...	0	0	Cumulus	2-4	W.	....	....	...	...	Fair.
	2 0 p. m.	27.54	82	81	27.39	81	70	55	N. E.	1	.01	....	0	0	Cumulus	2-4	W.	....	....	...	...	Fair.
	3 0 p. m.	27.53	85	81	27.37	81	70	55	N. E.	1	.01	...	0	0	Cumulus	2-4	W.	....	....	...	...	Fair.
	4 14 p. m	27.53	84	77	27.37	77	70	69	0	0	0	....	0	0	Cumulus	2-4	W.	....	....	...	...	Fair.
	5 0 p. m.	27.52	81	75	27.37	75	71	81	S. E.	1	.01	....	0	0	Cumulus	1-4	W.	....	....	...	...	Fair.
	6 0 p. m.	27.52	80	71	27, 37	71	68	85	0	0	0	...	0	0	0	0	0	....	....	...	...	Clear.
	7 0 p. m.	27.52	77	66	27.38	66	64	80	0	0	0	....	Hazy	....	Hazy ...	....	......	....	....	...	...	Clear.
	8 0 p. m.	27.52	74	63	37.39	63	62	91	0	0	0	....	0	0	0	0	0	....	....	...	...	Clear.
	9 0 p. m.	27.52	72	61	27.39	61	60	94	0	0	0	....	0	0	0	0	0	....	....	...	...	Clear.
	10 0 p. m	21.52	71	59	27.39	59	58	94	0	0	0	....	0	0	0	0	0	....	....	...	...	Clear.
	10 39 p. m.	27.52	70	58	27.40	58	57	94	0	0	0	....	0	0	0	0	0	....	....	...	...	Clear.
	12 0 p. m.	27.51	67	56	27.39	56	55	93	0	0	0	....	0	0	0	0	0	....	....	...	...	Clear.
Knoxville, Tenn	2 0 p. m.	29.23	82	86	29.032	85	71	46	N. W.	6	.18	...	0	0	Cumulus	1-4	S. W.	....	....	...	...	Fair.
	4 7 p. m.	29.22	83	90	29.039	89	73	42	W.	4	.03	....	0	0	0	0	0	....	....	...	...	Clear.
	9 0 p. m.	29.20	80	76	29.057	75	72	85	W.	3	.04	....	9	0	0	0	0	....	....	...	...	Clear.
	10 32 p. m.	29.20	81	74	29.054	73	71	90	0	0	0	....	0	0	0	0	0	....	....	...	...	Clear.

Meteorological record for September 1, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.87	67	55	23.78	55	50	68	N. W.	8	.32	....	0	0	Cirrus...	1-4	0	....	....	....	....	Fair.
	2 0 a. m.	23.87	66	54	23.78	54	50	74	N. W.	8	.32	....	0	0	0	0	0	....	....	....	....	Clear.
	3 0 a. m.	23.86	64	53	23.78	53	49	73	N. W.	10	.50	....	Hazy	....	Cirrus...	1 4	0	....	....	....	....	Fair.
	4 0 a. m.	23.86	64	54	23.78	54	50	74	N. W.	10	.50	....	Hazy	....	Cirrus...	1-4	0	....	....	....	....	Fair.
	5 0 a. m.	23.85	62	55	23.77	55	51	74	N. W.	12	.72	....	Hazy	....	Cirrus...	1-4	0	....	....	....	....	Fair.
	6 0 a. m.	23.85	61	56	23.77	56	50	63	N. W.	12	.72	....	Hazy	....	Cirrus...	1-4	0	....	....	....	....	Fair.
	7 14 a. m.	23.86	63	57	23.78	57	51	63	N. W.	12	.72	....	Hazy	....	Cirrus...	1-4	0	....	....	....	....	Fair.
	8 0 a. m.	23.86	64	58	23.78	58	53	70	N. W.	12	.72	....	Hazy	....	Cir. & cu.	1-4	N. W.	....	....	....	....	Fair.
	9 0 a. m.	23.87	64	60	23.79	60	56	77	N. W.	10	.50	....	Hazy	....	Cir. & cu.	1-4	0	....	....	....	....	Fair.
	10 0 a. m.	23.87	65	63	23.78	63	58	73	N. W.	8	.32	....	Hazy	....	Cirrus...	1-4	0	....	....	....	....	Fair.
	11 0 a. m.	23.86	67	64	23.77	64	58	68	N. W.	8	.32	...	Hazy	....	Cir. & cu.	2-4	W.	....	....	....	....	Fair.
	12 0 m...	23.86	68	65	23.77	65	59	68	N. W.	4	.08	185	Hazy	....	Cir. & cu.	2-4	0	....	....	....	....	Fair.
Base of Mount Mitchell, N. C.	1 0 a. m.	27.50	65	55	27.39	55	53	87	0	0	0	....	Hazy	....	0	0	0	....	....	....	....	Clear.
	2 0 a. m.	27.48	64	55	27.37	55	54	93	0	0	0	....	Stratus ...	2-4	0	0	0	....	....	....	....	Fair.
	3 0 a. m.	27.47	63	56	27.36	56	54	87	0	0	0	....	Stratus ...	4-4	Hidden..	....	......	....	....	....	....	Cloudy.
	4 0 a. m.	27.47	63	55	27.36	55	54	93	0	0	0	....	Fog	....	Hidden..	....	......	....	....	....	....	Foggy.
	5 0 a. m.	27.47	62	54	27.37	54	54	100	0	0	0	....	Fog	....	Hidden..	....	......	....	....	....	....	Foggy.
	6 0 a. m.	27.48	62	54	27.38	54	54	100	0	0	0	....	Fog	...	Hidden..	....	......	....	....	....	....	Foggy.
	7 14 a. m.	27.48	61	56	27.38	56	55	93	0	0	0	....	Fog	....	Hidden..	....	......	....	....	....	....	Foggy.
	8 0 a. m.	27.49	62	62	27.39	62	60	89	0	0	0	....	Hazy	....	Cirrus...	1-4	0	....	....	....	....	Clear.
	9 0 a. m.	27.49	65	73	27.38	73	69	72	0	0	0	....	Hazy	....	0	0	0	....	....	....	....	Clear.
	10 0 a. m.	27.49	71	77	27.36	77	70	69	0	0	0	....	Hazy	....	Cirrus ..	1-4	0	....	....	....	....	Fair.
	11 0 a. m.	27.48	73	81	27.34	81	70	56	S.	1	.01	....	0	0	Cumulus	1-4	S.	....	....	....	....	Fair.
	12 0 m...	27.48	80	81	27.33	81	71	59	N. W.	1	.01	8	0	0	Cirrus...	1-4	0	....	....	....	....	Fair.
Knoxville, Tenn.	7 0 a. m.	29.21	74	68	29.081	67	66	94	W.	1	.01	...	Fog	....	Hidden..	....	......	....	....	....	....	Foggy.
	7 7 a. m.	29.21	74	68	29.081	67	66	94	0	0	0	....	Fog	....	Hidden..	....	......	....	....	....	....	Foggy.
	11 32 a. m.	29.19	83	85	29.039	84	73	59	S.	4	.08	58	0	0	0	0	0	....	....	....	....	Clear.

Meteorological record for September 1, 1873—Continued.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C..	1 0 p. m.	23.86	70	67	23.76	67	58	55	N. W.	6	.18	....	Hazy......	....	Cir.& cu.	2-4	0	....	....	....	....	Fair.
	2 0 p. m.	23.85	75	70	23.74	70	62	61	N. W.	2	.02	....	Hazy......	...	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	3 0 p. m.	23.84	73	65	23.73	65	60	73	N. W.	2	.02	....	Hazy......	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	4 14 p. m.	23.84	75	65	23.73	65	59	69	N. W.	1	.01	....	Hazy......	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	5 0 p. m.	23.84	73	65	23.74	65	60	73	N. W.	3	.04	....	Hazy......	....	Cumulus	2-4	N. W	....	....	....	....	Fair.
	6 0 p. m.	23.82	70	62	23.72	62	59	83	N. W.	8	.32	....	Hazy......	....	Cumulus	2-4	N. W	....	....	....	....	Fair.
	7 0 p. m.	23.84	66	60	23.75	60	58	88	W.	4	.08	....	Hazy......	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	8 0 p. m.	23.86	73	58	23.76	58	56	88	W.	4	.08	....	Hazy......	....	Cir.& cu.	2-4	0	....	....	....	....	Cloudy.
	9 0 p. m.	23.88	72	57	23.78	57	55	87	W.	8	.32	....	Hazy......	...	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	10 0 p. m.	23.86	72	58	23.76	58	50	53	N. W.	8	.32	....	Hazy......	....	Cir.-cu..	3-4	0	....	....	....	....	Fair.
	10 39 p. m.	23.87	72	60	23.77	60	52	55	N. W.	4	.08	....	Hazy......	....	Cir.-cu..	2-4	N. W.	....	....	....	....	Fair.
	12 0 p. m.	23.86	69	59	23.77	59	49	43	W.	4	.08	....	0	0	Cir.& cu.	2-4	0	....	....	....	....	Fair.
Base of Mount Mitchell, N. C..	1 0 p. m.	27.48	84	83	27.32	83	72	56	N. W.	1	.01	....	0	0	Cumulus	1-4	W.	....	....	....	....	Fair.
	2 0 p. m.	27.47	85	82	27.31	82	71	56	0	0	0	...	0	0	Cumulus	1-4	0	....	....	....	...	Fair.
	3 0 p. m.	27.46	86	77	27.30	77	72	77	0	0	0	....	0	0	Cumulus	1-4	0	....	....	....	....	Fair.
	4 14 p. m.	27.45	84	80	27.29	80	73	70	0	0	0	....	0	0	Cumulus	1-4	0	....	....	....	....	Fair.
	5 0 p. m.	27.45	84	78	27.29	78	74	72	0	0	0	....	Hazy	....	Hazy ...	....	0	....	....	....	....	Clear.
	6 0 p. m.	27.44	82	73	27.29	73	70	85	0	0	0	...	0	0	Hazy ...	....	......	....	....	....	....	Clear.
	7 0 p. m.	27.46	79	69	27.31	69	67	90	0	0	0	....	0	0	Cirrus ..	2-4	0	....	....	....	...	Fair.
	8 0 p. m.	27.48	77	68	27.34	68	66	89	0	0	0	....	0	0	Cir.-cu..	2-4	W.	....	....	....	....	Fair.
	9 0 p. m.	27.49	75	65	27.35	65	63	89	0	0	0	....	0	0	Cir.-cu..	2-4	W.	....	....	....	...	Fair.
	10 0 p. m.	27.48	73	63	27.35	63	62	94	0	0	0	....	Stratus....	2-4	Cumulus	1-4	W.	....	....	....	....	Cloudy.
	10 39 p. m.	27.49	71	64	27.36	64	62	89	0	0	0	....	Stratus....	1-4	Cir.-cu..	3-4	W.	....	....	....	....	Cloudy.
	12 0 p. m.	27.48	70	62	27.36	62	60	88	0	0	0	....	Hazy......	...	0	0	0	....	....	....	....	Clear.
Knoxville, Tenn.	2 0 p. m.	29.16	86	73	29.001	72	70	87	S. W.	4	.08	....	0	0	Cirrus ..	4-4	0	....	....	....	....	Cloudy.
	4 7 p. m.	29.12	86	87	28.961	86	73	51	N. W.	12	.72	....	0	0	0	0	0	....	....	....	....	Clear.
	9 0 p. m.	29.13	82	76	28.962	77	73	81	S. W.	2	.02	....	0	0	Cumulus	1-4	0	....	....	....	....	Fair.
	10 32 p. m.	29.13	78	75	28.902	74	71	85	S. W.	3	.04	....	0	0	Cirrus ..	2-4	0	....	....	....	....	Fair.

Meteorological record for September 2, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction. (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 85	68	58	23. 76	58	54	76	N. W.	4	.08	....	0	0	Cirrus ..	1-4	0	....	....	....	....	Fair.
	2 0 a. m.	23. 84	66	57	23. 75	57	55	87	W.	8	.32	....	Light fog	....	Cirrus ..	1-4	0	....	....	....	....	Fair.
	3 0 a. m.	23. 83	65	56	23. 74	56	55	94	W.	10	.50	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 0 a. m.	23. 82	65	56	23. 73	56	55	94	W.	8	.32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 a. m.	23. 81	65	56	23. 72	56	55. 5	97	W.	10	.50	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 a. m.	23. 82	64	55	23. 74	55	55	100	N. W.	10	.50	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 14 a. m.	23. 84	64	57	23. 76	57	55	87	N. W.	12	.72	....	Hazy	....	Cirrus ..	3-4	0	....	....	....	....	Cloudy.
	8 0 a. m.	23. 85	65	58	23. 76	58	56	88	N. W.	8	.32	....	Hazy	....	Cirrus ..	2-4	0	....	....	....	....	Cloudy.
	9 0 a. m.	23. 86	64	59	23. 78	59	55	76	N. W.	6	.18	....	Hazy	....	Cir. & cu	2-4	0	....	....	....	....	Fair.
	10 0 a. m.	23. 86	65	61	23. 77	61	56	71	W.	4	.08	....	Hazy	....	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	11 0 a. m.	23. 87	66	63	23. 78	63	56	62	W.	3	.04	....	Hazy	....	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	12 0 m ..	23. 86	68	64	23. 77	64	58	68	S. W.	4	.08	133	Hazy	....	Cumulus	3-4	W.	....	....	....	....	Cloudy.
Base of Mount Mitchell, N. C.	1 0 a. m.	27. 44	60	60	27. 33	60	59	94	0	0	0	....	Hazy	....	0	0	0	....	....	....	....	Clear.
	2 0 a. m.	27. 44	68	58	27. 32	58	57	94	0	0	0	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 a. m.	27. 43	66	56	27. 32	56	55	94	0	0	0	....	Fog	....	0	0	0	....	....	....	....	Fair.
	4 0 a. m.	27. 43	65	57	27. 32	57	56	94	0	0	0	....	Hazy	....	Hazy	....	....	....	....	....	....	Clear.
	5 0 a. m.	27. 44	65	58	27. 33	58	57	94	0	0	0	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 a. m.	27. 45	64	58	27. 34	58	57	94	0	0	0	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 14 a. m.	27. 46	64	61	27. 35	61	60	94	0	0	0	....	Hazy	....	Cirrus ..	3-4	0	....	....	....	....	Fair.
	8 0 a. m.	27. 46	65	68	27. 35	68	65	84	0	0	0	....	0	0	Cirrus ..	1-4	0	....	....	....	....	Fair.
	9 0 a. m.	27. 47	67	75	27. 35	75	69	72	0	0	0	....	0	0	Cirrus ..	1-4	0	....	....	....	....	Fair.
	10 0 a. m.	27. 48	74	81	27. 35	81	72	63	0	0	0	....	0	0	Cirrus ..	1-4	0	....	....	....	....	Clear.
	11 0 a. m.	27. 49	78	81	27. 35	81	72	63	0	0	0	....	0	0	Cirrus ..	3-4	0	....	....	....	....	Fair.
	12 0 m ..	27. 50	80	83	27. 35	83	73	60	E.	4	.08	7	0	0	Cumulus	3-4	W.	....	....	....	....	Fair.
Knoxville, Tenn.	7 0 a. m.	29. 19	76	73	29. 057	72	70	87	S. W.	4	.08	....	0	0	Cirrus ..	4-4	....	....	....	....	....	Cloudy.
	7 7 a. m.	29. 19	76	73	29. 057	72	70	87	S. W.	4	.08	....	0	0	Cirrus ..	4-4	....	....	....	....	....	Cloudy.
	11 32 a. m.	29. 20	84	85	29. 046	84	74	60	W.	4	.08	112	0	0	Cumulus	4-4	....	....	....	....	....	Cloudy.

Meteorological record for September 2, 1873—Continued.

(Hourly observations.)

Place of observations.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction. (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C..	1 0 p. m.	23. 85	64	70	23. 77	70	61	57	S. W.	6	.18		Hazy		Cumulus	3-4	S. W.					Cloudy.
	2 0 p. m.	23. 85	62	68	23. 77	68	61	65	S. W.	8	.32		Hazy		Cumulus	3-4	S. W.					Cloudy.
	3 0 p. m.	23. 86	62	68	23. 78	68	61	65	W.	12	.72		Hazy		Cumulus	3-4	W.					Cloudy.
	4 14 p. m.	23. 85	65	62	23. 76	62	60	88	N. W.	8	.32		Nimbus	4-4	Hidden			3.55 p. m.		.08		Heavy rain.
	5 0 p. m.	23. 85	65	60	23. 76	60	59	94	N. W.	6	.18		Nimbus	4-4	Hidden					.16		Heavy rain.
	6 0 p. m.	23. 84	63	60	23. 76	60	59	94	W.	4	.08		Nimbus	4-4	Hidden					.21		Heavy rain.
	7 0 p. m.	23. 85	63	59	23. 77	59	57	88	N. W.	8	.32		Fog		Hidden				6.30 p. m.	.07		Foggy.
	8 0 p. m.	23. 86	64	58	23. 78	58	57	94	N. W.	8	.32		Fog		Hidden							Foggy.
	9 0 p. m.	23. 87	64	57	23. 79	57	56	94	N. W.	10	.50		Fog		0	0	0					Foggy.
	10 0 p. m.	23. 88	65	56	23. 79	56	54	87	N. W.	6	.18		Light fog		Cirrus	1-4	0					Fair.
	10 39 p. m.	23. 87	65	56	23. 78	56	54	87	N. W.	4	.08		0	0	Cirrus	1-4	0					Fair.
	12 0 p. m.	23. 85	67	56	23. 76	56	54	87	N. W.	4	.08		0	0	Cirrus	1-4	0					Fair.
Base of Mount Mitchell, N. C..	1 0 p. m.	27. 49	83	83	27. 33	83	71	53	N.	4	.08		0	0	Cumulus	3-4	N.					Fair.
	2 0 p. m.	27. 49	83	83	27. 33	83	72	56	0	0	0		0	0	Cumulus	3-4	N.					Fair.
	3 0 p. m.	27. 47	83	75	27. 31	75	68	68	0	0	0		0	0	Cumulus	4-4	0					Cloudy.
	4 14 p. m.	27. 46	80	78	27. 31	78	71	69	W.	1	.01		0	0	Cumulus	2-4	0					Fair.
	5 0 p. m.	77. 46	80	78	27. 31	78	72	73	0	0	0		0	0	Cumulus	2-4	W.					Fair.
	6 0 p. m.	27. 47	80	72	27. 32	72	68	72	S. W.	1	.01		Stratus	2-4	Cumulus	2-4	S. W.					Cloudy.
	7 0 p. m.	27. 49	77	69	27. 35	69	67	90	0	0	0		Stratus	3-4	Cumulus	1-4	0					Threatening.
	8 0 p. m.	27. 53	76	67	27. 39	67	66	95	W.	1	.01		Nimbus	4-4	Hidden			7.45 p. m.		.22		Heavy rain.
	9 0 p. m.	27. 51	75	65	27. 37	65	63	89	0	0	0		Stratus	2-4	0	0	0		8.30 p. m.	.58		Fair.
	10 0 p. m.	27. 50	74	63	27. 37	63	62	89	0	0	0		Stratus	2-4	0	0	0					Fair.
	10 39 p. m.	27. 50	73	61	27. 37	61	61	100	0	0	0		Stratus	2-4	0	0	0					Fair.
	12 0 p. m.	27. 49	70	61	27. 37	61	60	94	0	0	0		Stratus	4-4	Hidden							Cloudy.
Knoxville, Tenn.	2 0 p. m.	29. 16	85	88	29. 004	87	72	45	N.	8	.32		0	0	Cumulus	3-4	E.					Cloudy.
	4 7 p. m.	29. 15	86	87	28. 991	86	73	51	N. W.	12	.72		Stratus	4-4	Hidden							Cloudy.
	9 0 p. m.	29. 17	81	76	29. 024	75	70	74	S. W.	6	.18		0	0	Cirrus	4-4	0					Cloudy.
	10 32 p. m.	29. 17	81	75	29. 024	74	70	78	0	0	0		0	0	Cirrus	3-4	0					Cloudy.

Meteorological record for September 3, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comm'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.86	66	55	23.77	55	53	87	S. W.	2	.02	....	0	0	Cumulus	3-4	0	....	....	....	....	Cloudy.
	2 0 a. m.	23.86	61	55	23.78	55	54	93	S. W.	4	.08	....	Hazy	....	Cumulus	4-4	0	....	....	....	....	Cloudy.
	3 0 a. m.	23.85	60	54	23.77	54	53	93	W.	2	.02	....	Hazy	....	Cumulus	4-4	0	....	....	....	....	Cloudy.
	4 0 a. m.	23.84	65	54	23.75	54	53	93	S. W.	6	.18	....	Light fog .	....	Cumulus	2-4	0	....	....	....	....	Cloudy.
	5 0 a. m.	23.84	66	55	23.75	55	53	87	S. W.	8	.32	....	Light fog .	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	6 0 a. m.	23.86	62	57	23.78	57	54	81	S.	6	.18	....	Hazy	....	Cumulus	2-4	0	....	....	....	....	Fair.
	7 14 a. m.	23.88	64	62	23.80	62	58	77	S. E.	6	.18	....	Hazy	...	Cumulus	2-4	S. E.	....	....	....	....	Fair.
	8 0 a. m.	23.89	66	64	23.80	64	60	78	S. E.	5	.12	....	Hazy	....	Cumulus	2-4	S. E.	....	....	....	....	Fair.
	9 0 a. m	23.90	72	68	23.80	68	62	70	S. E.	4	.08	....	Hazy	....	Cumulus	3-4	0	....	....	....	....	Cloudy.
	10 0 a. m.	23.91	72	63	23.81	63	60	83	S. E.	4	.08	....	Fog.......	....	Cumulus	1-4	0	....	....	....	....	Foggy.
	11 0 a. m.	23.92	72	68	23.82	68	62	70	S. E.	4	.08	...	Fog.......	....	Cumulus	3-4	E.	....	....	....	....	Foggy.
	12 0 m...	23.90	65	65	23.81	65	62	84	S. E.	8	.32	136	Fog.......	...	Cumulus	4-4	S. E.	....	....	....	....	Cloudy.
Base of Mount Mitchell, N. C.	1 0 a. m.	27.49	70	60	27.37	60	59	91	0	0	0	....	Fog.......	....	Hidden .	....	....	....	....	....	....	Foggy.
	2 0 a. m.	27.49	68	60	27.37	60	59	91	0	0	0	....	Stratus ...	2-4	0	0	0	....	....	....	....	Fair.
	3 0 a. m.	27.48	67	58	27.36	58	57	94	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	4 0 a. m.	27.49	66	58	27.38	58	57	94	0	0	0	....	Stratus ...	1-4	0	0	0	....	....	....	....	Fair.
	5 0 a. m.	27.50	65	56	27.39	56	55	93	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	6 0 a. m.	27.51	64	56	27.40	56	55	93	0	0	0	...	Fog.......	....	Hidden .	....	....	....	....	....	....	Foggy.
	7 14 a. m.	27.52	68	58	27.40	58	57	94	0	0	0	....	Fog.......	....	Hidden .	....	....	....	....	....	....	Foggy.
	8 0 a. m.	27.51	64	64	27.40	64	62	89	0	0	0	....	0	0	Cirrus ..	1-4	0	....	....	....	....	Clear.
	9 0 a. m.	27.52	67	74	27.40	74	70	81	0	0	0	....	0	0	Cumulus	1-4	S. W.	....	....	....	....	Fair.
	10 0 a. m.	27.53	72	77	27.40	77	70	69	S. W.	1	.01	....	0	0	Cumulus	1-4	S. W.	....	....	....	....	Fair.
	11 0 a. m.	27.54	75	78	27.40	78	71	69	N. E.	1	.01	...	0	0	Cumulus	1-4	0.	....	....	....	....	Fair.
	12 0 m...	27.53	78	80	27.39	80	77	66	S.	4	.08	10	0	0	Cumulus	3-4	S.	....	....	....	....	Fair.
Knoxville, Tenn.	7 0 a. m.	29.22	74	71	29.091	70	67	84	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	7 7 a. m.	29.22	74	71	29.001	70	67	84	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	11 22 a. m.	29.22	82	84	29.071	83	73	59	S.	8	.32	107	0	0	Cumulus	1-4	S. W.	....	....	....	....	Fair.

Meteorological record for September 3, 1873—Continued.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 p. m.	23. 89	73	65	23. 79	65	62	84	S. E.	6	. 18	....	Fog	....	Cumulus	4-4	S. E.	....	....	....	....	Cloudy.
	2 0 p. m.	23. 88	73	63	23. 78	63	60	83	E.	4	. 08	....	Nimbus	4-4	Hidden	....	....	2. 00 p. m.	....	....	....	Light rain.
	3 0 p. m.	23. 86	71	64	23. 76	64	61	83	S. E.	8	. 32	....	Fog	....	Hidden	....	....	....	2.35 p. m.	. 03	....	Foggy.
	4 14 p. m.	23. 83	70	61	23. 73	61	60	94	S. E.	10	. 32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 0 p. m.	23. 82	67	60	23. 73	60	59	94	S. E.	12	. 72	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	6 0 p. m.	23. 84	66	59	23. 75	59	58	94	S. W.	8	. 32	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 0 p. m.	23. 81	64	58	23. 73	58	57	94	S. W.	16	1. 28	....	Fog	....	Cumulus	2-4	S.	....	....	....	....	Cloudy.
	8 0 p. m.	23. 81	65	57	23. 72	57	56	94	S. W.	16	1. 28	....	Fog	....	Cir. & cu.	2-4	S. W.	....	....	....	....	Cloudy.
	9 0 p. m.	23. 82	65	57	23. 73	57	56	94	S. W.	16	1. 28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 p. m.	23. 82	64	56	23. 74	56	55	94	S. W.	12	. 72	....	Light fog	....	Cumulus	4-4	S. W.	....	....	....	....	Cloudy.
	10 39 p. m.	23. 81	63	56	23. 73	56	55	94	S. W.	12	. 72	....	Light fog	....	Cumulus	4-4	S. W.	....	....	....	....	Cloudy.
	12 0 p. m.	23. 80	62	55	23. 72	55	54	93	S. W.	16	1. 28	....	Light fog	....	Cumulus	4-4	S. W.	....	....	....	....	Cloudy.
Base of Mount Mitchell, N. C.	1 0 p. m.	27. 52	82	80	27. 37	80	71	62	S. W.	4	. 08	....	0	0	Cumulus	2-4	S. W.	....	....	....	....	Fair.
	2 0 p. m.	27. 51	83	80	27. 35	80	72	66	S. W.	4	. 08	....	0	0	Cumulus	2-4	S. W.	....	....	....	....	Fair.
	3 0 p. m.	27. 48	84	80	27. 32	80	72	66	S. W.	1	. 01	....	0	0	Cumulus	2-4	S. W.	....	....	....	....	Fair.
	4 14 p. m.	27. 47	83	77	27. 31	77	70	69	S.	4	. 08	....	Stratus	2-4	Cumulus	2-4	S.	....	....	....	....	Cloudy.
	5 0 p. m.	27. 47	82	73	27. 32	73	70	85	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	6 0 p. m.	27. 47	80	70	27. 32	70	69	95	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	7 0 p. m.	27. 47	78	69	27. 33	69	68	95	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	8 0 p. m.	27. 47	76	67	27. 33	67	66	95	0	0	0	....	Stratus	2-4	0	0	0	....	....	....	....	Fair.
	9 0 p. m.	27. 48	75	66	27. 34	66	65	94	0	0	0	....	Stratus	2-4	Cirrus	1-4	0	....	....	....	....	Fair.
	10 0 p. m.	27. 47	74	65	27. 34	65	64	94	0	0	0	....	Stratus	3-4	0	0	0	....	....	....	....	Fair.
	10 39 p. m.	27. 47	73	64	27. 34	64	62	89	0	0	0	....	Stratus	2-4	Cumulus	2-4	S.	....	....	....	....	Cloudy.
	12 0 p. m.	27. 45	71	62	27. 32	62	61	94	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
Knoxville, Tenn.	2 0 p. m.	29. 17	86	88	29. 011	87	75	55	S.	8	. 32	....	0	0	Cumulus	2-4	S. W.	....	....	....	....	Cloudy.
	4 7 p. m.	29. 14	86	89	28. 981	88	74	48	S. W.	12	. 72	....	0	0	Cir. & cu.	4-4	W.	....	....	....	....	Cloudy.
	9 0 p. m.	29. 14	77	71	29. 004	70	69	92	0	0	0	....	Stratus	4-4	Hidden	....	....	6. 20 p. m.	7. 15 p. m.	1. 26	....	Cloudy.
	10 32 p. m.	29. 14	77	70	29. 004	69	68	95	E.	2	. 02	....	0	0	Cirrus	4-4	0	....	....	....	....	Clearing.

Meteorological record for September 4, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23.78	62	55	23.70	55	55	100	S.W.	14	.98	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	2 0 a. m.	23.77	62	54	23.69	54	54	100	S.W.	16	1.28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	3 0 a. m.	23.77	63	54	23.69	54	54	100	S.W.	14	.98	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	4 0 a. m.	23.77	62	55	23.69	55	55	100	S.W.	14	.98	...	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	5 6 a. m.	23.77	62	54	23.69	54	54	100	W.	12	.72	....	Fog	...	Hidden	....	....	....	....	....	....	Foggy.
	6 0 a. m.	23.77	62	55	23.69	55	54	93	W.	16	1.28	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	7 14 a. m.	23.78	62	55	23.70	55	55	100	W.	20	2.00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	8 0 a. m.	23.78	61	55	23.70	55	55	100	W.	20	2.00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	9 6 a. m.	23.80	60	54	23.72	54	54	100	W.	22	2.42	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	10 0 a. m.	23.82	62	54	23.74	54	54	100	W.	20	2.00	....	Fog	....	Hidden	....	....	....	....	....	....	Foggy.
	11 0 a. m.	23.81	61	53	23.73	53	53	100	W.	16	1.28	...	Light fog	....	Cumulus	2-4	W.	10.15 a. m.	10.50 a. m.	.09	....	Fair.
	12 0 m ..	23.79	63	56	23.71	56	55	93	N.W.	16	1.28	348	Light fog	....	Cumulus	3-4	W.	....	....	....	....	Cloudy.
Base of Mount Mitchell, N. C.	1 0 a. m	27.44	70	61	27.32	61	60	94	0	0	0	...	Stratus	2-4	Cirrus	2-4	0	....	....	....	....	Cloudy.
	2 0 a. m.	27.45	69	61	27.33	61	60	94	0	0	0	....	Stratus	3-4	0	0	0	....	....	....	....	Cloudy.
	3 0 a. m.	27.45	68	60	27.33	60	59	94	0	0	0	...	Stratus	1-4	0	0	0	....	....	....	....	Fair.
	4 0 a. m.	27.44	67	60	27.32	60	59	94	0	0	0	....	Stratus	2-4	0	0	0	....	....	....	....	Fair.
	5 0 a. m.	27.44	67	61	27.32	61	60	94	0	0	0	....	0	0	Cumulus	2-4	W.	....	....	....	....	Fair.
	6 0 a. m.	27.45	67	61	27.33	61	60	94	0	0	0	....	0	0	Cir. &cu.	2-4	W.	....	....	....	....	Fair.
	7 14 a. m.	27.46	67	61	27.34	61	59	88	0	0	0	....	0	0	Cir. &cu.	3-4	W.	....	....	....	....	Fair.
	8 0 a. m.	27.47	68	68	27.35	68	65	84	0	0	0	....	Stratus	2-4	Cumulus	2-4	W.	....	....	....	....	Cloudy.
	9 0 a. m.	27.49	69	68	27.37	68	66	89	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	10 0 a. m.	27.48	70	70	27.36	70	67	85	0	0	0	....	Stratus	4-4	Hidden	....	....	....	....	....	....	Cloudy.
	11 0 a. m.	27.46	71	67	27.33	67	66	95	0	0	0	...	Stratus	4-4	Hidden	...	....	10.18 a. m.	10.55 a. m.	.03	....	Cloudy.
	12 0 m ..	27.44	71	72	27.31	72	68	80	0	0	0	12	Stratus	2-4	Cir. & cu.	2-4	0	....	....	....	....	Cloudy.
Knoxville, Tenn.	7 0 a. m.	29.17	74	70	29.041	69	68	95	S.	8	.32	....	Stratus	4-4	Hidden	....	....	6.00 a. m.	....	...	....	Cloudy.
	7 7 a. m.	29.17	74	70	29.041	69	68	95	S.	8	.32	....	Stratus	4-4	Hidden	...	....	....	7.15 a. m.	.11	....	Cloudy.
	11 32 a. m.	29.22	82	84	29.071	83	73	59	S.	8	.32	173	0	0	Cumulus	1-4	S.W.	....	....	....	....	Fair.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Commen'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 p. m.	23. 80	64	60	23. 72	60	59	94	W.	16	1. 28	....	Light-fog	....	Cumulus	3-4	N. W.	....	....	....	....	Cloudy.
	2 0 p. m.	23. 78	67	60	23. 69	60	58	88	N. W.	12	. 72	....	Hazy	....	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	3 0 p. m.	23. 78	66	58	23. 69	58	57	94	N. W.	16	1. 28	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	4 14 p. m.	23. 77	64	58	23. 69	58	57	94	N. W.	16	1. 28	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	5 0 p. m.	23. 77	63	58	23. 69	58	58	100	N. W.	20	2. 00	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	6 0 p. m.	23. 77	66	57	23. 68	57	57	100	W.	18	1. 62	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	7 0 p. m.	23. 76	68	58	23. 67	58	58	100	N. W.	16	1. 28	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	8 0 p. m.	23. 76	66	57	23. 67	57	57	100	N. W.	22	2. 42	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	9 0 p. m.	23. 77	63	56	23. 69	56	56	100	N. W.	28	3. 92	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	10 0 p. m.	23. 78	62	56	23. 70	56	56	100	N. W.	24	2. 88	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	10 39 p. m.	23. 78	63	56	23. 70	56	56	100	W.	22	2. 42	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	12 0 p. m.	23. 78	64	55	23. 70	55	55	100	N. W.	16	1. 28	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
Base of Mount Mitchell, N. C.	1 0 p. m.	27. 44	74	76	27. 31	76	69	68	N. E.	1	.01	....	Stratus	1-4	Cir. & cu.	3-4	W.	....	....	....	....	Cloudy.
	2 0 p. m.	27. 43	78	77	27. 29	77	70	69	0	0	0	....	Stratus	2-4	Cumulus	2-4	W.	....	....	....	....	Cloudy.
	3 0 p. m.	27. 42	79	78	27. 27	78	69	61	N. E.	1	.01	....	Stratus	2-4	Cumulus	2-4	0	....	....	....	....	Cloudy.
	4 14 p. m.	27. 43	79	76	27. 28	76	69	68	N. E.	1	.01	....	Stratus	1-4	Cumulus	3-4	W.	....	....	....	....	Cloudy.
	5 0 p. m.	37. 43	78	75	27. 29	75	68	68	N. E.	1	.01	....	Stratus	1 4	Cirrus	3-4	0	....	....	....	....	Cloudy.
	6 0 p. m.	27. 44	78	74	27. 30	74	68	72	S.	4	.08	....	Stratus	3-4	Cumulus	1-4	S. W.	....	....	....	....	Cloudy.
	7 0 p. m.	27. 46	77	74	27. 32	74	67	68	S.	1	.01	....	Stratus	3-4	Cirrus	1-4	W.	....	....	....	....	Cloudy.
	8 0 p. m.	27. 46	77	75	27. 32	75	67	64	S.	1	.01	....	Stratus	1-4	Cirrus	1-4	W.	....	....	....	....	Fair.
	9 0 p. m.	27. 46	76	74	27. 32	74	66	63	0	0	0	....	0	0	Cirrus	1-4	0	....	....	....	....	Fair.
	10 0 p. m.	27. 46	74	67	27. 33	67	64	84	0	0	0	....	0	0	Cirrus	1-4	0	....	....	....	....	Clear.
	10 39 p. m.	27. 45	73	65	27. 32	65	63	89	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	12 0 p. m.	27. 45	72	66	27. 32	66	64	89	0	0	0	....	0	0	Cir.-cu.	2-4	S. W.	....	....	....	....	Fair.
Knoxville, Tenn.	2 0 p. m.	29. 12	83	84	28. 969	83	74	63	S. W.	16	1. 28	....	0	0	Cumulus	4-4	W.	....	....	....	....	Threatening.
	4 7 p. m.	29. 12	84	85	28. 967	84	75	64	S. W.	8	. 32	...	0	0	Cumulus	4-4	W.	3.00 p. m.	3.15 p. m.	. 02	....	Cloudy.
	9 0 p. m.	29. 14	79	74	28. 999	75	70	85	S. W.	8	. 32	....	Stratus	4-4	Hidden	...	......	....	....	....	....	Cloudy.
	10 32 p. m.	29. 14	80	73	28. 996	72	69	85	S. W.	6	. 18	....	0	0	Cirrus	4-4	0	....	....	....	....	Cloudy.

Meteorological record for September 5, 1873.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Common'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 a. m.	23. 79	67	57	23. 70	57	57	100	W.	16	1. 28	....	Fog.......	...	Hidden .	....	....	....	....	....	....	Foggy.
	2 0 a. m.	23. 78	65	57	23. 69	57	57	100	N. W.	18	1. 62	....	Fog.......	....	Hidden .	....	....	....	....	....	....	Foggy.
	3 0 a. m.	23. 79	64	56	23. 71	56	56	100	W.	20	2. 00	....	Fog.......	....	Hidden .	....	....	....	....	....	....	Foggy.
	4 0 a. m.	23. 79	63	57	23. 71	57	57	100	W.	22	2. 42	....	Fog.......	...	Hidden .	....	....	....	....	....	....	Foggy.
	5 0 a. m.	23. 80	64	58	23. 72	58	58	100	W.	20	2. 00	....	Fog.......	....	Hidden .	....	....	....	....	....	....	Foggy.
	6 0 a. m.	23. 82	63	57	23. 74	57	57	100	W.	16	1. 28	....	Fog.......	....	Hidden .	....	....	....	....	....	....	Foggy.
	7 14 a. m.	23. 83	64	57	23. 75	57	57	100	W.	22	2. 42	....	Fog.......	....	Hidden .	....	....	....	....	....	....	Foggy.
	8 0 a. m.	23. 85	63	57	23. 77	57	57	100	W.	20	2. 00	....	Fog	....	Hidden .	....	....	....	....	....	....	Foggy.
	9 0 a. m.	23. 87	63	57	23. 79	57	57	100	W.	20	2. 00	....	Fog.......	....	Hidden .	....	....	....	....	....	....	Foggy.
	10 0 a. m.	23. 88	63	58	23. 80	58	58	100	W.	16	1. 28	....	Fog	....	Hidden .	....	....	....	....	....	....	Foggy.
	11 0 a. m.	23. 90	64	59	23. 81	59	59	100	W.	16	1. 28	....	Fog.......	....	Hidden .	....	....	....	....	....	....	Foggy.
	12 0 m.	23. 90	64	60	23. 81	60	59	94	W.	16	1. 28	449	Light fog .	....	Cumulus	2-4	0	....	....	....	....	Cloudy.
Base of Mount Mitchell, N. C.	1 0 a. m.	27. 45	71	65	27. 32	65	63	89	0	0	0	....	0	0	Cir. & cu.	3-4	S.	....	....	....	....	Cloudy.
	2 0 a. m.	27. 45	71	70	27. 32	70	65	75	N.	4	. 08	....	Stratus ..	1-4	Cumulus	2-4	W.	....	....	....	....	Cloudy.
	3 0 a. m.	27. 45	72	73	27. 32	73	67	72	N.	6	. 18	....	Stratus ...	2-4	Cirrus ..	1-4	N. W.	....	....	....	....	Cloudy.
	4 0 a. m.	27. 46	73	72	27. 33	72	66	71	N. E.	4	. 08	....	Stratus ...	1 4	0	0	0	....	....	....	....	Clear.
	5 0 a. m.	27. 47	73	70	27. 34	70	66	80	N. E.	1	. 01	....	Stratus ...	1-4	Cumulus	2-4	N. W.	....	....	....	....	Fair.
	6 0 a. m.	27. 48	73	71	27. 35	71	66	75	N. E.	4	. 08	....	0	0	Cir. & cu.	3-4	W.	....	....	....	....	Fair.
	7 14 a. m.	27. 50	73	75	27. 37	75	68	68	N. E.	1	. 01	....	0	0	Cumulus	2-4	S. W.	....	....	....	....	Fair.
	8 0 a. m.	27. 52	74	74	27. 39	74	68	72	N. E.	1	. 01	....	Stratus ...	1-4	Cumulus	1-4	S. W.	....	....	....	....	Fair.
	9 0 a. m.	27. 52	76	79	27. 38	79	69	58	0	0	0	....	0	0	Cumulus	3-4	W.	....	....	....	....	Fair.
	10 0 a. m.	27. 54	79	77	27. 39	77	69	68	0	0	0	....	0	0	Cumulus	3-4	W.	....	....	....	....	Fair.
	11 0 a. m.	27. 54	78	76	27. 40	76	70	73	S. E.	1	. 01	....	0	0	Cumulus	3-4	W.	....	....	....	....	Fair.
	12 0 m.	27. 52	78	77	27. 38	77	70	69	0	0	0	23	0	0	Cumulus	3-4	W.	....	....	....	....	Fair.
Knoxville, Tenn.	7 0 a. m.	29. 23	77	72	29. 093	71	69	87	S. W.	8	. 32	....	0	0	Cirrus ..	1-4	0	....	....	....	....	Fair.
	7 7 a. m.	29. 23	77	72	29. 093	71	69	87	S. W.	8	. 32	....	0	0	Cirrus ..	1-4	0	....	....	....	....	Fair.
	11 32 a. m.	29. 23	82	82	29. 083	81	74	70	S. W.	8	. 32	200	0	0	Cumulus	4-4	W.	....	....	....	....	Cloudy.

Meteorological record for September 5, 1873—Continued.

(Hourly observations.)

Place of observation.	Time of observation.	Barometer.	THERM.		Corrected barometer.	HYGROM.		Relative humidity.	WIND.				LOWER CLOUDS.		UPPER CLOUDS.			RAIN OR SNOW.		Amount of rain or melted snow.	Thermometer, daily mean.	Remarks.
			Attached.	Exposed.		Dry bulb.	Wet bulb.		Direction.	Velocity per hour.	Pressure per sq. ft.	Daily velocity.	Kind.	Amount.	Kind.	Amount.	Direction, (moving from—)	Comment'd.	Ended.			
Summit of Mount Mitchell, N. C.	1 0 p. m.	23. 90	66	58	23. 81	58	58	100	S. W.	16	1. 28	....	Nimbus	4-4	Hidden	....	......	12. 35 p. m.	....	. 08	....	Light rain.
	2 0 p. m.	23. 87	66	59	23. 78	59	59	100	W.	16	1. 28	....	Fog	....	Hidden	....	......	....	1. 35 p. m.	. 04	....	Foggy.
	3 0 p. m.	23. 86	66	60	23. 77	60	59	94	W.	12	. 72	....	Light fog	....	Cumulus	4-4	W.	....	....	. 16	....	Cloudy.
	4 14 p. m.	23. 85	67	59	23. 76	59	59	100	N. W.	12	. 72	....	Fog	....	Hidden	....	......	3. 20 p. m.	4. 05 p. m.	....	....	Foggy.
	5 0 p. m.	23. 85	67	59	23. 76	59	59	100	N. W.	12	. 72	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	6 0 p. m.	23. 84	65	57	23. 75	57	57	100	N. W.	16	1. 28	....	Light fog	....	Cumulus	4-4	0	....	....	....	....	Cloudy.
	7 0 p. m.	23. 85	67	57	23. 76	57	57	100	N. W.	16	1. 28	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	8 0 p. m.	23. 86	68	57	23. 77	57	57	100	N. W.	10	. 50	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	9 0 p. m.	23. 87	64	56	23. 79	56	56	100	N. W.	14	. 98	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	10 0 p. m.	23. 88	64	56	23. 80	56	56	100	N. W.	18	1. 62	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	10 39 p. m.	23. 88	63	55	23. 80	55	55	100	N. W.	16	1. 28	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
	12 0 p. m.	23. 86	61	56	23. 78	56	56	100	N. W.	16	1. 28	....	Fog	....	Hidden	....	......	....	....	....	....	Foggy.
Base of Mount Mitchell, N. C.	1 0 p. m.	27. 52	79	77	27. 37	77	70	69	0	0	0	....	0	0	Cumulus	3-4	W.	....	....	....	....	Fair.
	2 0 p. m.	27. 50	81	81	27. 35	81	70	55	N. E.	1	. 01	....	Stratus	2-4	Cumulus	2-4	W.	....	....	....	....	Cloudy.
	3 0 p. m.	27. 49	82	79	27. 34	79	69	58	N. E.	1	. 01	....	0	0	Cir.-cu.	4-4	S. W.	....	....	....	....	Cloudy.
	4 14 p. m.	27. 50	81	78	27. 35	78	69	61	0	0	0	....	0	0	Cir.-cu.	3-4	W.	....	....	....	....	Fair.
	5 0 p. m.	27. 51	80	73	27. 36	73	70	85	N. E.	1	. 01	....	0	0	Cir. & cu.	3-4	W.	....	....	....	....	Fair.
	6 0 p. m.	27. 51	79	73	27. 36	73	68	76	0	0	0	....	0	0	Cir. & cu.	4-4	W.	....	....	....	....	Cloudy.
	7 0 p. m.	27. 53	77	70	27. 39	70	67	85	0	0	0	...	Stratus	3-4	Cumulus	1-4	0	....	....	....	....	Cloudy.
	8 0 p. m.	27. 54	76	66	27. 40	66	65	94	0	0	0	....	0	0	Cirrus	1-4	0	....	....	....	....	Clear.
	9 0 p. m.	27. 53	74	65	27. 40	65	63	89	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
	10 0 p. m.	27. 55	72	64	27. 42	64	62	89	0	0	0	....	0	0	Cumulus	1-4	W.	....	....	....	....	Clear.
	10 39 p. m.	27. 55	72	63	27. 42	63	62	94	0	0	0	....	0	0	Cumulus	1-4	W.	....	....	....	....	Clear.
	12 0 p. m.	27. 52	70	61	27. 40	61	60	94	0	0	0	....	0	0	0	0	0	....	....	....	....	Clear.
Knoxville, Tenn.	2 0 p. m.	29. 20	84	85	29. 045	84	74	61	S. W.	8	. 32	....	0	0	Cir. & cu.	4-4	S. W.	....	....	....	....	Cloudy.
	4 7 p. m.	29. 21	84	84	29. 055	83	74	64	S. W.	8	. 32	....	Stratus	1-4	Cir. & cu.	3-4	S. W.	....	....	....	....	Cloudy.
	9 0 p. m.	29. 26	78	73	29. 121	72	71	95	N. W.	1	. 01	....	0	0	Cir. & cu.	2-4	0	6 p. m	6. 40 p. m.	. 36	....	Clearing.
	10 32 p. m.	29. 23	78	73	29. 091	72	71	95	N. W.	4	. 08	....	0	0	0	0	0	....	....	....	....	Clear.

PAPER 17.

Showing stations inspected, by whom, and when inspected.

Stations.	Name of inspector.	Date.
Augusta, Ga	First Lieut. Charles S. Smith, acting signal-officer.	Feb. 12, 1873.
Alpena, Mich	Second Lieut. A. W. Greely, acting signal-officer.	Mar. 28–31 '73.
Burlington, Vt	Second Lieut. A. W. Greely, acting signal-officer.	Dec. 3–5, 1872.
Baltimore, Md	Second Lieut. A. W. Greely, acting signal-officer.	Feb. 4–6, 1873.
Buffalo, N. Y	Second Lieut. A. W. Greely, acting signal-officer.	Mar. 8–15, 1873.
Breckenridge, Minn	Second Lieut. A. W. Greely, acting signal-officer.	May 17–20, 1873.
Boston, Mass	Second Lieut. A. W. Greely, acting signal-officer.	Dec. 23, 1872, to Jan. 6, 1873.
	First Lieut. A. W. Greely, acting signal-officer.	Sept. 23 to Oct. 1, 1873.
Cleveland, Ohio	First Lieut. Charles S. Smith, acting signal-officer.	Oct. 24, 1872.
	Second Lieut. A. W. Greely, acting signal-officer.	Mar. 16–21, '73.
Cincinnati, Ohio	First Lieut. Charles S. Smith, acting signal-officer.	Nov. 7, 1872.
	First Lieut. Charles S. Smith, acting signal-officer.	April 1, 1873.
Cape May, N. J	Second Lieut. A. W. Greely, acting signal-officer.	Jan. 30–31, 1873.
Chicago, Ill	Second Lieut. A. W. Greely, acting signal-officer.	April 13–24, '73.
Detroit, Mich	First Lieut. Charles S. Smith, acting signal-officer.	Oct. 15, 1872.
	Second Lieut. A. W. Greely, acting signal-officer.	Oct. 2–9, 1873.
Denver, Colo	Second Lieut. A. W. Greely, acting signal-officer.	Nov. 6–9, 1872.
Davenport, Iowa	Second Lieut. A. W. Greely, acting signal-officer.	June 7–13, 1873.
Duluth, Minn	Second Lieut. A. W. Greely, acting signal-officer.	May 7–10, 1873.
Dubuque, Iowa	First Lieut. A. W. Greely, acting signal-officer.	Aug. 11, 12, and 13, 1873.
Escanaba, Mich	First Lieut. Charles S. Smith, acting signal-officer.	Oct. 1, 1872.
	Second Lieut. A. W. Greely, acting signal-officer.	April 29 to May 1, 1873.
Erie, Pa	First Lieut. A. W. Greely, acting signal-officer.	Aug. 15 and 16, 1873.
Eastport, Me	First Lieut. A. W. Greely, acting signal-officer.	Sept. 16 and 17, 1873.
Fort Sully, Dak. Ter	First Lieut. A. W. Greely, acting signal-officer.	July 20 and 23, 1873.
Galveston, Tex	First Lieut. Charles S. Smith, acting signal-officer.	March 3, 1873.
Grand Haven, Mich	Second Lieut. A. W. Greely, acting signal-officer.	April 10–12, '73.
Indianola, Tex	First Lieut. Charles S. Smith, acting signal-officer.	March 6, 1873.
Jacksonville, Fla	First Lieut. Charles S. Smith, acting signal-officer.	Feb. 5, 1873.
Key West, Fla	First Lieut. Charles S. Smith, acting signal-officer.	Dec. 20, 1872.

Showing stations inspected, by whom, and when inspected—Continued.

Stations.	Name of inspector.	Date.
Keokuk, Iowa	First Lieut. A. W. Greely, acting signal-officer.	June 15–18, '73.
Lake City, Fla	First Lieut. Charles S. Smith, acting signal-officer.	Feb. 4, 1873.
Louisville, Ky	First Lieut. Charles S. Smith, acting signal-officer.	March 26, 1873.
Leavenworth, Kans	First Lieut. A. W. Greely, acting signal-officer.	June 29 to July 2, 1873.
La Crosse, Wis	First Lieut. A. W. Greely, acting signal-officer.	Aug. 8, 9, and 10, 1873.
Mount Washington, N. H.	Second Lieut. A. W. Greely, acting signal-officer.	Dec. 7–9, 1872.
Montgomery, Ala	First Lieut. Charles S. Smith, acting signal-officer.	Feb. 15, 1873.
Mobile, Ala	First Lieut. Charles S. Smith, acting signal-officer	Feb. 18, 1873.
Memphis, Tenn	First Lieut. Charles S. Smith, acting signal-officer.	March 21, 1873.
Milwaukee, Wis	Second Lieut. A. W. Greely, acting signal-officer.	April 23–28, '73.
Marquette, Mich	Second Lieut. A. W. Greely, acting signal-officer.	May 1, 2, 1873.
Morgantown, W. Va.	First Lieut. A. W. Greely, acting signal-officer.	Aug. 18–21, 1873.
New Haven, Conn	Second Lieut. A. W. Greely, acting signal-officer.	Jan. 11–14, 1873.
New London, Conn	Second Lieut. A. W. Greely, acting signal-officer.	Jan. 15–17, 1873.
New York City, N. Y	Second Lieut. A. W. Greely, acting signal-officer.	Jan. 19–24, 1873.
Norfolk, Va	Second Lieut. A. W. Greely, acting signal-officer.	Feb. 12–15, 1873.
New Orleans, La	First Lieut. Charles S. Smith, acting signal-officer.	Feb. 22, 1873.
Nashville, Tenn	First Lieut. Charles S. Smith, acting signal-officer.	March 24, 1873.
Oswego, N. Y	Second Lieut. A. W. Greely, acting signal-officer.	Feb. 24–28, 1873.
Omaha, Nebr	First Lieut. A. W. Greely, acting signal-officer.	July 28 to Aug. 5, 1873.
Portland, Oreg	Second Lieut. A. W. Greely, acting signal-officer.	Oct. 15–18, 1872.
Pittsburgh, Pa	First Lieut. Charles S. Smith, acting signal-officer.	Nov. 11, 1872.
Portland, Me	Second Lieut. A. W. Greely, acting signal-officer.	Dec. 16–19, 1872.
	First Lieut. A. W. Greely, acting signal-officer.	Sept. 18–20, '73.
Punta Rassa, Fla	First Lieut. Charles S. Smith, acting signal-officer.	Jan. 21, 1873.
Philadelphia, Pa	Second Lieut. A. W. Greely, acting signal-officer.	Jan. 25–29, 1873.
Pembina, Dak. Ter	Second Lieut. A. W. Greely, acting signal-officer.	May 24–27, 1873.
Rochester, N. Y	Second Lieut. A. W. Greely, acting signal-officer.	March 1–8, 1873.
San Francisco, Cal	Second Lieut. A. W. Greely, acting signal-officer.	Oct. 8–12, 1872.
San Diego, Cal	Second Lieut. A. W. Greely, acting signal-officer.	Oct. 27, 1872.
Santa Fé, N. Mex	Second Lieut. A. W. Greely, acting signal-officer.	Nov. 12, 13, 1872.
Savannah, Ga	First Lieut. Charles S. Smith, acting signal-officer.	Feb. 9, 1873.

Showing stations inspected, by whom, and when inspected—Continued.

Stations.	Name of inspector.	Date.
Shreveport, La	First Lieut. Charles S. Smith, acting signal-officer.	March 11, 1873.
Saint Paul, Minn	Second Lieut. A. W. Greely, acting signal-officer.	May 6–10, 1873.
Saint Louis, Mo	First Lieut. A. W. Greely, acting signal-officer.	June 17–28, '73.
Toledo, Ohio	First Lieut. Charles S. Smith, acting signal-officer.	Oct. 21, 1872.
	Second Lieut. A. W. Greely, acting signal-officer.	Mar. 21–25, '73.
Vicksburgh, Miss	First Lieut. Charles S. Smith, acting signal-officer.	March 17, 1873.
Wood's Hole, Mass	Second Lieut. A. W. Greely, acting signal-officer.	Jan. 6, 7, 1873.
Yankton, Dak. Ter	First Lieut. A. W. Greely, acting signal-officer.	July , 1873. 5–8

PAPER 18.

INSTRUCTIONS FOR MAKING AND REPORTING TELEGRAPHIC RIVER OBSERVATIONS FOR THE SIGNAL-SERVICE, UNITED STATES ARMY.

WAR DEPARTMENT, OFFICE OF THE CHIEF SIGNAL-OFFICER,
DIVISION OF TELEGRAMS AND REPORTS FOR THE
BENEFIT OF COMMERCE AND AGRICULTURE,
Washington, D. C., April 10, 1873.

1. All measurements at each station will be made from the bench-mark or water-level in common use by river-men at that station, and the depth of water from the bed of the river to this level, at the point where the gauge in use is located, will be reported to this office at the time of sending in the first mail reports.

2. The gauge used will be put up by the observer at each station at the expense of this office, and will be made of pine or oak timber, two inches thick by ten inches in width, and of sufficient length to cover the full range of the river between extreme low-water and high-water marks. This timber will be placed edgewise and firmly imbedded in the earth, leaving one and a half inches of its width exposed above the level of the ground. The upper edge will be planed smooth, and carefully graduated in feet and inches, *after being placed in position*, taking the established bench-mark or level referred to in Par. 1 as the zero of the scale, and numbering the feet and inches both above and below that point, unless it is at extreme low-water mark, in which case the numbers will all be above the zero of the scale. [Figures 1 and 2.] Especial pains will be taken in graduating the gauge to see that the distances marked off upon it for each foot and its subdivisions will correspond exactly to the vertical foot and subdivisions of which they are the measure. This can be readily done by means of an ordinary spirit-level, a straight-edge on which to place the level, and a graduated rod, fixed vertically, from which to take the measurement.

3. Observations will be made daily from May 1 to July 31 and October 1 to November 30 of each year, and at such intermediate times as may be desired by the Chief Signal-Officer, or rendered necessary by any sudden or unexpected change in the condition of the river.

4. Whenever the rise or fall of water is gradual, one observation per day will be made at 3 p. m., local time, during the periods named above. When the change is sudden and unusual in its character, reports will be made every three hours during such change until the river resumes its normal condition.

5. Observations will be made on Sundays at the regular hours, and delivered punctually at the telegraph-office, as on other days of the week.

6. All regular reports will be sent in the cipher accompanying these instructions, and signed "Observer," only. The *name* of the observer will not be given. They will consist of five words each, (beside the address and signature,) arranged in the following order:

1. Name of station.
2. Date and time of report.

State of weather and direction of wind.
Depth of water in feet.
Depth of water in inches.

fourth word will show the distance in feet above or below the bench-mark, e fifth word the odd inches, when there are any. If the depth can be expressed alone, the word "naught" will be sent in the fifth space. When the river is at time of report, observers will use the cipher-words in the column headed ' and those in the column headed "Fall" when it is falling.

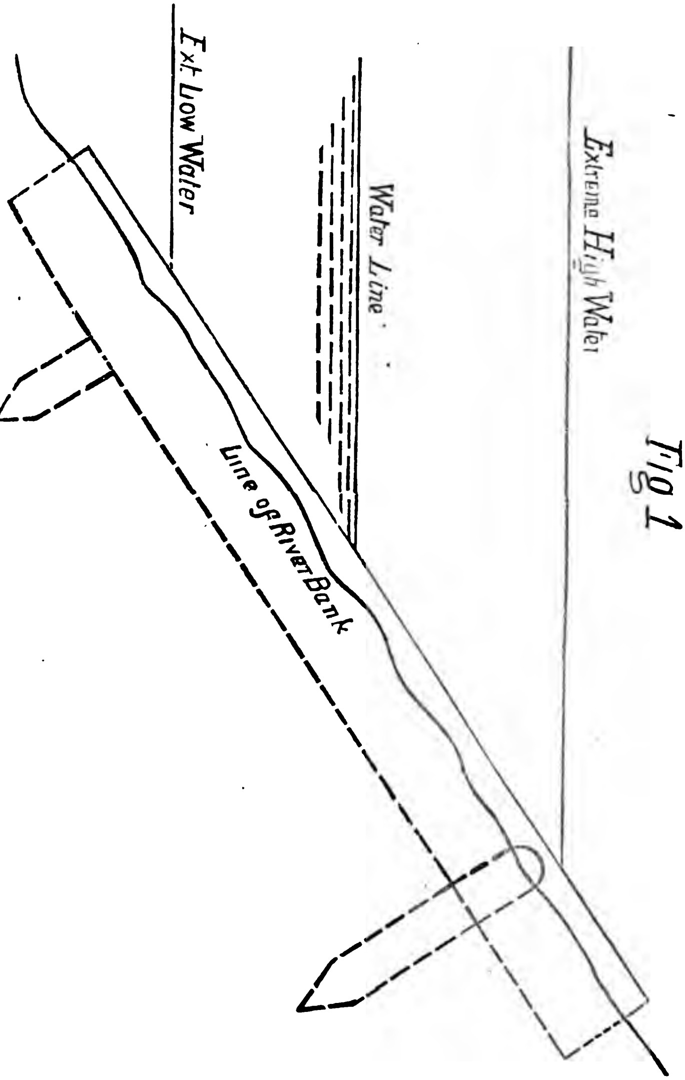


Fig 1

eports will be written in duplicate on Form 1, and one copy filed, properly and signed, at the telegraph-office within thirty minutes after the observa-de. The report from ——— will be sent to the observer-sergeant at ———. ied copy of each report made during any one day will be mailed on the morn-succeeding day to the "Chief Signal-Officer, Washington, D. C."
luplicates (Form 1) must be properly dated, timed, and signed, as indicated forms, and must also show upon their face the time at which they were filed graph-office.

9. A weekly report (on Form 27) will be made to this office, showing the number o reports sent during each day of the week; the line by which they were sent; time o filing in telegraph-office; and such other data as may be indicated by the heads of th different columns.

10. All necessary blanks, forms, stationery, &c., will be furnished by this office, an will not be purchased by observers without special authority from the Chief Signal Officer. Timely requisition will be made upon this office for additional blanks an stationery whenever necessary.

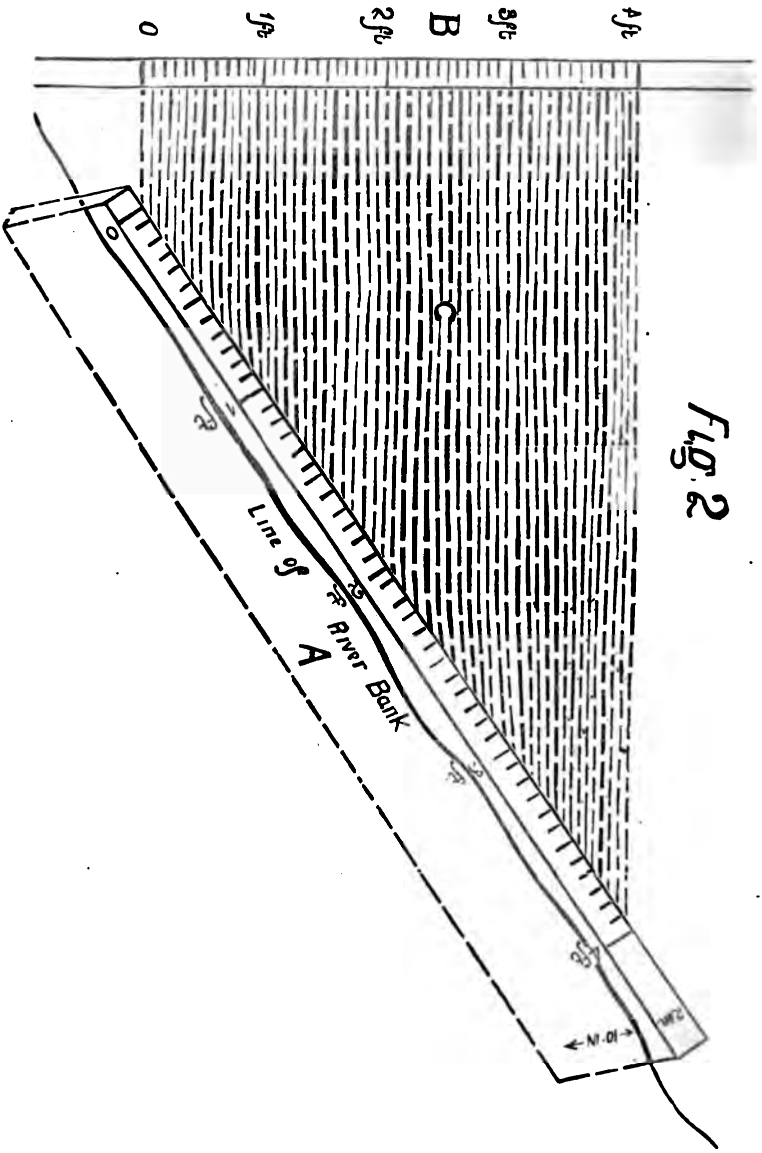


Fig. 2

"A." Plank, to be graduated, after insertion in bank, by means of the upright measuring-rod "B."
"B." straight-edge and spirit-level, crosswise, as shown by the dotted lines at "C."

11. All bills for services or for material furnished should be rendered monthly, and will be settled by the property and disbursing officer of the Signal-Office as soon after their receipt as the necessary vouchers can be signed. The bill for construction of guage will be settled promptly upon its receipt at this office. Observers will not pre-

ay telegrams or reports on official business, as settlement will be made by the office ith the telegraph company direct.

12. Observers will arrange, as far as practicable, to have some competent, reliable erson to make reports in case of their sickness or unavoidable absence; and, when his is done, will see that the person so employed is properly instructed in his duties.

13. Special telegraphic reports will be made to this office of the formation or break-ng of all ice-gorges or other obstructions in the river, and of the presence of float-ng ice or timber, when of sufficient extent to render navigation unsafe, stating, in s few words as possible, the location and extent of the gorge, break, or obstruction n each instance.

14. It is expected that all observers will make their obervations and reports *accu-ately* and *promptly*, bearing constantly in mind the fact that their usefulness, when eceived at this office, depends wholly upon these two conditions.

15. The Chief Signal-Officer reserves to himself the right of withholding payment rom any observer who shall neglect to make his reports accurately and promptly.

16. Whenever necessary, reports from adjoining stations will be sent to observers, nd will be given by them to the press, and also posted in such public places as are nost frequented by river-men and merchants interested in the condition of the river.

17. Official communications by mail, addressed "Chief Signal-Officer of the Army, Vashington, D. C.," go free of postage until June 30, 1873, after which they must be repaid. Stamps for this purpose will be furnished from the Signal-Office.

IPHER FOR TRANSMISSION OF TELEGRAPHIC RIVER OBSERVATIONS FOR THE SIGNAL-SERVICE, UNITED STATES ARMY.

INSTRUCTIONS FOR USING THE CIPHER.

1. Each report will consist of *five* words besides the address and signature. In the irst space of the form used the *name* of the station from which the report is made will e written; in the second space, the word for *date* and *time* of report; in the third space, he one for *state of weather* and *direction of wind;* in the fourth space, the *depth* of water n *feet,* and in the fifth space the *depth in inches* in excess of the feet. The cipher-words hould in all cases be written plainly and correctly.

EXAMPLE.

(Form 1.)

WAR DEPARTMENT, SIGNAL-SERVICE UNITED STATES ARMY,
DIVISION OF TELEGRAMS AND REPORTS FOR THE
BENEFIT OF COMMERCE AND AGRICULTURE.

Report of observation taken at Hermann on April 1, at 6 p. m.

Observer-Sergeant, Saint Louis.				
Hermann.	Gab.	Lomond.	Harden.	Often.
				Observer.

Handed to operator at 6.20 p. m.

NOTE.—Operators will send only the matter inside the heavy lines.

Translation.

	Name of station	Hermann.
Gab	Date of report	First day of the month.
	Time of report	6 o'clock p. m.
Lomond	State of weather	Heavy rain.
	Direction of wind	Northwest.
Harden	Height of water above bench-mark	12 feet 5 inches.
Often		

River rising.

The cipher-words to be used when the water is either *above* or *below* the bench-nark will be found on page 956. When the water is *rising*, the words will be aken from the left-hand columns; when it is *falling*, from the right-hand columns.

DATE AND TIME OF REPORT.

(*Second space in Form* 1.)

Date.	3 p. m.	6 p. m.	9 p. m.	12 mid-night.	3 a. m.	6 a. m.	9 a. m.	12 m.
1	Cad.	Gab.	Mace.	Nag.	Kaffer.	Idea.	Pace.	Sack.
2	Cake.	Gage.	Made.	Nail.	Kale.	Idiom.	Pack.	Sad.
3	Calf.	Gain.	Magi.	Nash.	Kalif.	Idle.	Pad.	Safe.
4	Cam.	Game.	Main.	Nave.	Kamsin.	If.	Pagan.	Salt.
5	Camp.	Gang.	Make.	Navy.	Kaw.	Ignite.	Page.	Same.
6	Cane.	Gap.	Malt.	Nay.	Kedge.	Ilex.	Paint.	Sample.
7	Cape.	Gard.	Man.	Neal.	Keen.	Iliad.	Pale.	Sand.
8	Cary.	Gas.	Mark.	Neap.	Keep.	Ilk.	Palm.	Sash.
9	Case.	Gate.	Max.	Near.	Keg.	Image.	Palsy.	Sauce.
10	Cash.	Gaul.	Maze.	Neck.	Keal.	Imagine.	Pan.	Saw.
11	Cat.	Gave.	Mean.	Ned.	Kennel.	Imbank.	Panel.	Say.
12	Chew.	Gay.	Meek.	Nero.	Kennedy.	Imbibe.	Pansy.	Scant.
13	City.	Gem.	Meg.	Nest.	Kept.	Imbow.	Pardon.	Scale.
14	Clip.	Get.	Mend.	New.	Ketch.	Imburse.	Pass.	Sense.
15	Coal.	Gift.	Met.	Next.	Key.	Imp.	Pause.	Send.
16	Cob.	Gild.	Mine.	Nice.	Kick.	In.	Paw.	Sex.
17	Coke.	Gin.	Minx.	Nick.	Kid.	Incase.	Peace.	Shade.
18	Cold.	Gird.	Moat.	Nigh.	Kidder.	Index.	Peak.	She.
19	Come.	Give.	Mob.	Nile.	Kill.	India.	Peg.	Shine.
20	Copy.	Glad.	Mood.	Nip.	Kiln.	Indite.	Pen.	Shrub.
21	Cork.	Glen.	Mope.	Nod.	Kimbo.	Indorse.	Pelt.	Side.
22	Cost.	Go.	Morn.	Nook.	Kind.	Induce.	Pike.	Sick.
23	Cox.	Gone.	Moss.	Noon.	King.	Indulge.	Pin.	Sign.
24	Crab.	Good.	Moth.	Nor.	Kink.	Infant.	Pit.	Silk.
25	Crow.	Gray.	Move.	Nose.	Kiss.	Infect.	Pitch.	Sin.
26	Cry.	Grin.	Mown.	Not.	Kite.	Infer.	Plant.	Sing.
27	Cuba.	Grub.	Mud.	Noun.	Knap.	Influx.	Plain.	Sink.
28	Cud.	Gulf.	Muff.	Now.	Knave.	Ink.	Plow.	Skate.
29	Cup.	Gun.	Mugs.	Nude.	Knife.	Insane.	Plum.	Skill.
30	Cuff.	Gust.	Musk.	Nut.	Knock.	Into.	Plug.	Skunk.
31	Cur.	Guy.	Myth.	Nye.	Know.	Invoke.	Plush.	Sting.

All cipher-words should be written plainly and distinctly.

	Wind blowing from the—								
	N.	N. E.	E.	S. E.	S.	S. W.	W.	N. W.	Calm.
Clear	Agnes.	Eliza.	Mabel.	Adam.	Cowper.	China.	Danube.	Aral.	Beech.
Foggy	Alice.	Fanny.	Martha.	Allen.	David.	Dublin.	Hudson.	Azof.	Cedar.
Fair	Amy.	Flora.	Mary.	Andrew.	Dickens.	Geneva.	Huron.	Baltic.	Cherry.
Cloudy	Anna.	Grace.	Maud.	Bacon.	Grant.	Italy.	Jordan.	Caspian.	Elm.
Clearing up	Betsey.	Helen.	Nellie.	Ben.	Green.	Japan.	Mohawk.	Como.	Hemlock.
Threatening storm	Carrie.	Ida.	Olive.	Bryant.	Holmes.	Malta.	Niagara.	Garda.	Maple.
Light rain	Chloe.	Isabel.	Rachel.	Burke.	Homer.	Milan.	Ohio.	Java.	Oak.
Heavy rain	Clara.	Jane.	Rhoda.	Burns.	John.	Moscow.	Potomac.	Lomond.	Palm.
Light snow	Delia.	Josie.	Sarah.	Byron.	Mack.	Nantes.	Tagus.	Simcoe.	Pine.
Heavy snow	Dinah.	Judith.	Sophia.	Charles.	Ross.	Naples.	Volga.	Wener.	Spruce.
Hail or sleet	Edith.	Julia.	Susan.	Clark.	Sabine.	Paris.	Wabash.	Yellow.	Walnut.

All cipher-words should be written clearly and distinctly.

DEPTH OF WATER IN FEET.

(The following cipher-words will be used when the water is *above* bench-mark.)

(*Fourth space in Form* 1.)

	Rise.	Fall.		Rise.	Fall
0	Habit.	Habit.	26	Hazy.	Lavish
1	Hadley.	Labor.	27	Heal.	Law.
2	Hague.	Lackey.	28	Heap.	Lawn.
3	Hair.	Lad.	29	Heart.	Lawyer.
4	Half.	Laden.	30	Heath.	Lead.
5	Halo.	Lady.	31	Heathen.	League.
6	Halter.	Lager.	32	Heavy.	Lean.
7	Hamlet.	Lain.	33	Hebe.	Leaping.
8	Handy.	Lamb.	34	Hebrew.	Learn.
9	Hang.	Land.	35	Hebron.	Leaven.
10	Happy.	Landing.	36	Hector.	Lecture.
11	Harbor.	Lansing.	37	Held.	Ledger.
12	Harden.	Lantern.	38	Helix.	Left.
13	Harem.	Lapse.	39	Helm.	Leg.
14	Harlot.	Larch.	40	Helot.	Legal.
15	Harm.	Lard.	41	Help.	Legend.
16	Harper.	Large.	42	Hence.	Leghorn.
17	Harry.	Lash.	43	Henry.	Lemon.
18	Harsh.	Late.	44	Herald.	Lenox.
19	Harvest.	Lath.	45	Herd.	Lentel.
20	Haste.	Latin.	46	Heresy.	Lesson.
21	Hatch.	Latrobe.	47	Hermit.	Level.
22	Hawk.	Laugh.	48	Hernia.	Levity.
23	Hayti.	Laura.	49	Heroic.	Levy.
24	Hazard.	Laurel.	50	Here.	Lend.
25	Hazel.	Lava.			

All cipher-words should be written plainly and distinctly.

DEPTH OF WATER IN INCHES.

(The following cipher-words will be used when the water is above the bench-mark.)

(*Fifth space in Form* 1.)

	Rise.	Fall.		Rise.	Fall.
0	Naught.	Naught.	7	Omit.	Wench.
1	Oath.	Wafer.	8	Order.	Weak.
2	Obtain.	Waken.	9	Organ.	Weston.
3	Odium.	Walk.	10	Other.	Whack.
4	Offend.	Wander.	11	Ought.	What.
5	Often.	Water.			
6	Omega.	Wave.			

All cipher-words should be written plainly and distinctly.

SURFACE OF WATER BELOW BENCH-MARK.

(The following cipher-words will be used only when the water is below the bench-mark or zero of gaug

Feet.

	Rise.	Fall.		Rise.	Fall.
1	Quab.	Race.	11	Queen.	Refit.
2	Quack.	Rack.	12	Quell.	Relay.
3	Quaff.	Raft.	13	Quench.	Rent.
4	Quag.	Rag.	14	Quip.	Rich.
5	Quaid.	Raid.	15	Quire.	Rid.
6	Quail.	Rake.	16	Quince.	Rife.
7	Quaint.	Rank.	17	Quit.	Ring.
8	Quake.	Rap.	18	Quorum.	Rise.
9	Quart.	Rat.	19	Quote.	Rule.
10	Quash.	Read.	20	Quotient.	Rum.

SURFACE OF WATER BELOW BENCH-MARK.

Inches.

Rise.	Fall.		Rise.	Fall.
Vade.	Each.	7	Vest.	Eat.
Valve.	Ear.	8	Vex.	Eden.
Vane.	Eagle.	9	Vice.	Edge.
Vase.	Earth.	10	Vine.	Engine.
Vat.	Earn.	11	Virge.	End.
Vault.	Ease.			

All cipher-words should be written plainly and distinctly.

(Form 27.)

WAR DEPARTMENT,
SIGNAL SERVICE UNITED STATES ARMY,
DIVISION OF TELEGRAMS AND REPORTS FOR THE
BENEFIT OF COMMERCE AND AGRICULTURE.

Report of river observations made during week ending Saturday ——, 187–, at ——.

Day and date.	No. of observations per day.	Time observation made.	Time filed in telegraph-office.	Line sent by.	Remarks.
unday.........					
onday					
uesday........					
ednesday					
hursday.......					
riday					
aturday					
otal No. of observations during week.					

—— ——, *Observer.*

One copy of this form, properly filled up, will be mailed to the Chief Signal-Officer, ashington, D. C., on Monday of the week succeeding that of which it is the record. from any cause the reports are not forwarded by telegraph, the fact will be noted, ith suitable explanation, under the head of "Remarks."

APPENDIX.

The following table of elevations is furnished for the information of all observe
Any errors in the figures and any changes in location of office or elevation of barom
ter since date given opposite each station will be promptly reported to this office.
no changes have taken place since the date named in the following table, the elevati
given will be used for correcting all barometrical observations.

Station and date of last reported change.	Elevation of barometer above ground at office.	Elevation of ground at office above bench-mark.	Bench-mark.	Elevation of bench-mark above mean sea-level.	Total elevation to be corrected for.
	Feet.	*Feet.*		*Feet.*	*Fe*
Alpena, Mich., September 9, 1872.	18. 10	9	Lake Huron..........	580. 00	607.
Augusta, Ga., May 15, 1872.	28. 00	3. 00 below railr'd-track.	Railroad track........	(?) 147. 00	172.
Baltimore, Md., December 23, 1870.	31. 24 above door-sill.	....	....	Door-sill above mean-tide, 13. 95.	45.
Boston, Mass, January 9, 1871.	42. 00	11. 8	City base............	23. 6	77.
Breckenridge, Minn., April 21, 1872.	3. 00	0	Railroad-track at station.	963. 00	966.
Buffalo, N. Y., June 21, 1873.	55. 00	38. 00	Erie-canal docking...	569. 00	662.
Burlington, Vt., May 24, 1871.	33. 35	6. 22 below ..	City base............	195. 72	222.
Cairo, Ill., August 19, 1871.	33. 00	43. 5	Ordinary low water in Ohio River.	275. 7	352.
Cape May, N. J., May 17, 1871.	5. 5	8. 7	Mean sea-level	0	14.
Charleston, S. C., January 1, 1871.	39. 00	(?) 0	Ground at Saint Michael's Church.	22. 4	61.
Cheyenne, W. T., May 1, 1871.	17. 00	0	U. P. R. R. track......	6, 041. 00	6, 058.
Chicago, Ill., June 19, 1873.	67. 00	14	City base, 2 feet below low water.	576. 00	657.
Cincinnati, Ohio, October 22, 1870.	68. 00 above door-sill.	Door-sill above base 113. 96.	City base; low water in Ohio River, 1832.	432. 00	613.
Cleveland, Ohio, May 24, 1873.	44. 00	....	....	638. 7	682.
Corinne, Utah, February 1, 1871.	14. 00	0	C. P. R. R. track	4, 233. 00	4, 249.
Davenport, Iowa, May 23, 1871.	40. 3	31. 2	City base, low water .	532. 88	603.
Denver, Colo., November 10, 1871.	35. 00	13	K. P. R. R. track......	5, 087. 00	5, 135.
Detroit, Mich., May 15, 1871.	73. 00	15. 3	City base, Detroit River.	568. 00	656.
Dubuque, Iowa, August 26, 1873.	30. 20	56. 12	....	578. 3	665.
Du Luth, Minn., October 18, 1870.	18. 22	24. 50	Lake Superior, ordinary level.	600. 00	642.
Eastport, Me., March 20, 1873.	31. 10	30. 15	Sea-level	....	61. 25
Erie, Pa., May 25, 1873..	29. 63	76. 87	Lake-level............	564. 00	671. 5
Escanaba, Mich., May 19, 1871.	16. 8	6. 5	Lake Michigan, low water.	578. 3	601.
Fort Benton, M. T., October 2, 1872.	3. 6	0	Ground	(?) 2, 674. 00	2, 677. 5
Fort Gibson, March 31, 1873.	19. 00	....	....	....	......
Fort Garry, Manitoba..	....	....	....	....	......
Fort Sully, D. T., April 25, 1872.	16. 00	160	Low water Missouri River.	(?) 1, 512	(?) 1,688.
Galveston, Tex., April 19, 1871.	35. 2	4	Mean high tide.......	1	40. 2
Geneva, N. Y	....	....	....	....	......
Grand Haven, Mich., August 15, 1872.	21. 00	7. 8	City base, 9.2 feet above low water.	587. 5	616. 3
Halifax, Nova Scotia...	....	....	....	....	......
Havana, June 21, 1873 ..	2. 267	19. 389	Sea-level	....	21. 6
Indianapolis, Ind., February 4, 1871.	46. 7	39. 00	City base, White River, low water.	661. 00	746. 7
Indianola, Tex., May 1, 1872.	16. 00	0	Ground	9. 00	25. 0

Station and date of last reported change.	Elevation of barometer above ground at office.	Elevation of ground at office above bench-mark.	Bench-mark.	Elevation of bench-mark above mean sea-level.	Total elevation to be corrected for.
	Feet.	*Feet.*		*Feet.*	*Feet.*
Jacksonville, Fla., September 21, 1871.	17.66	0	Ground	(?) 5.24	(?) 22.9
Keokuk, Iowa, December 15, 1871.	45.9	66.36	Low-water mark on bridge.	471.64	583.9
Key West, Fla., August 1, 1871.	12.00	0	Ground	5.00	17.00
Kingston, Canada, February 12, 1872.	77.00	....	....	319.00	326.7
Knoxville, Tenn., January 15, 1871.	20.00	Below bench, 11.40.	Main floor of Center College.	984.42	993.00
La Crosse, Wis., October 15, 1872.	21.6	11.36	Railroad-track	653.3	686.26
Lake City, Fla., October 16, 1870.	16.00	0	......do	200.00	216.00
Leavenworth, Kans., May 20, 1871.	33.00	51.38	City base, low water Missouri River.	729.00	813.38
Lexington, Ky., October 10, 1872.	35.00	(?) 0	Railroad-track	(?) 1,048.00	1,083.00
Louisville, Ky., February 29, 1872.	60.2	Below city bench, 5.9.	City bench, corner of Main and Bullit st's.	441.8	496.1
Lynchburgh, Va., June 2, 1871.	6.5	8.5	Railroad-track	(?) 723.00	738.00
Marquette, Mich., October 9, 1871.	30.11	Below city base, 2.00.	City base, 38.22 feet above ordinary water.	638.22	666.33
Memphis, Tenn., October 9, 1871.	37.00	142.5	City base............	119.44	298.94
Milwaukee, Wis., January 25, 1873.	44.5	38.6	....	578.3	661.4
Mobile, Ala., May 1, 1872.	32.00	0	Ground	9.00	41.00
Montgomery, Ala., September 4, 1872.	29.3	0	......do	191.2	220.5
Montreal, Canada	....	....	....	....	182.00
Morgantown, W. Va ...	35.11	166.51	Low water, Monongahela River.	789.61	991.23
Mount Washington, N. H., October 5, 1871.	7.4 below bench.	....	Lieutenant Cram's Summit bench.	6,293.00	6,285.6
Nashville, Tenn., Mar. 21, 1872.	31.5	217.2	City base............	255.5	504.2
New Haven, Conn., Dec. 6, 1872.	83.1	0	Ground.....	23.9	107.00
New London, Conn., Jan. 9, 1871.	16.8	0	Ground.....	7.10	24.6
New Orleans, La., Nov. 1, 1871.	45.5	5.34 below.	City bench, cor. Canal st. and Cust. House.	15.65	55.81
New York, N. Y., July 26, 1871.	128.00	14.44	City bench, extreme high water.	(?) 23.16	165.60
Norfolk, Va., Sept. 9, '71.	42.00	13.52	Mean tide-level (?)	....	55.52
Omaha, Nebr., Dec. 1, 1871.	26.4	71.29	City base, low water of 1857.	948.00	1,045.69
Oswego, N. Y., Oct. 12, 1870.	(?) 33.00	24.00	Lake Ontario, high water (?)	242.00	(?) 299.00
Pembina, D. T., Oct. 15, 1872.	3.00	0	Railroad-track.	787.00	790.00
Philadelphia, Pa., Sept. 21, 1871.	53.12	15.00	City base, extreme high water.	3.00	71.12
Pike's Peak...........	....	....	....	....	....
Pittsburgh, Pa., July 1, 1871.	56.21	40.60	City base, low water.	694.38	791.19
Port Dover, Canada....	28.3	....	Ground.....	590.7	618.00
Port Stanley, Canada ..	4.7	....	Ground.....	579.4	584.1
Portland, Me., Jan. 13, 1871.	21.00	0	Ground.....	31.00	52.00
Portland, Oreg., Nov. 1, 1871.	41.9	0.5	City base............	57.6	100.00
Punta Rassa, Fla., Nov. 1, 1872.	12.00	0	Ground.....	5.00	17.00
Quebec, Canada........	....	22.00	....	314.00	336.00
Rochester, N. Y., Oct. 3, 1872.	84.5	8.9 below bench.	Erie canal tow-path (?)	508.5	584.1
San Antonio, Tex......	....	....	....	....	....
San Diego, Cal., Oct. 15, 1871.	17.72	0	Ground.....	44.28	62.00
San Francisco, Cal., Oct. 23, 1871.	47.00	6.3	City base............	6.7	60.00

Station and date of last reported change.	Elevation of barometer above ground at office.	Elevation of ground at office above bench-mark.	Bench-mark.	Elevation of bench-mark above mean sea-level.	Total elevation to be corrected for.
	Feet.	*Feet.*		*Feet.*	*Feet.*
Santa Fé, N. Mex., June 28, 1873.	16. 2	0	Initial stone..........	(?) 6, 846. 00	6, 862. 20
Saugeen, Canada.......	3. 00	....	Ground......	594. 00	597. 00
Savannah, Ga., April 12, 1871.	26. 00	48. 24	City base, low water, Savannah river.	3. 2 below.	71. 04
Shreveport, La., December 6, 1871.	37. 00	11. 52	City base, high-water mark.	(?) 180. 00	228. 52
Saint Louis, Mo., July 15, 1871.	82. 77	56. 77	City directrix	404. 00	543. 54
Saint Paul, Minn., December 27, 1871.	31. 63	92. 8	City base, extreme low-water, Mississippi River.	670. 00	794. 43
Toledo, Ohio, April 1, 1871.	80. 00	0	City base, 7.5 above ordinary level of Lake Erie.	569. 5	649. 5
Toronto, Canada.	3. 4	....	Ground.	338. 6	342. 00
Vicksburgh, Miss., October 1, 1872.	30. 8	Ground below track of V. & M. R. R., 1. 26.	V. and M. railroad-track.	250. 56	280. 1
Virginia City, M. T., November 21, 1871.	12. 7	15. 3	City base............	(?) 5, 482. 00	(?)5,510. 0
Washington, D. C., March 10, 1872.	42. 1	Ground below bench, 26. 40.	United States Capitol bench.	89. 86	105. 56
Wilmington, N. C., December 18, 1870.	24. 7	0	Ground	6. 00	30. 7
Wood's Hole, Mass...	....	....	....	....	....
Wytheville, Va., January 16, 1873.	14. 00	43. 8	Railroad-track at depot	2, 237. 00	2, 294. 8
Yankton, D. T., July 3, 1873.	28. 9	37. 9 Below.	0	1, 305. 00	1, 296. 00

NOTE.—By "mean sea-level" is meant the mean of the "mean low tide" and "mean high tide" given by the Coast Survey Observations.

The following table is furnished for the information and guidance of all concerned. The regular hours for taking the telegraphic observations are 7.35 a. m., 4. 35 p. m., and 11 p. m., Washington mean time.

At stations west of Washington the figures given in the table for each station will be subtracted from the above hours, and the remainder will show the proper local time for the observations.

At stations east of Washington the figures in the table will be added to these hours to obtain the proper local time. Any discrepancies discovered between the figures given here and the local time in use at each station will be promptly reported to this office.

Table showing the difference between local time and Washington mean time at the signal stations named:

Stations.	Slower than Washington.		Faster than Washington.	
	Minutes.	Seconds.	Minutes.	Seconds.
Alpena, Mich	26	0	....	....
Augusta, Ga	19	6	....	....
Baltimore, Md	....	....	1	6
Boston, Mass	....	....	23	6
Breckenridge, Minn	79	0	....	....

howing the difference between local time and Washington mean time at the signal-stations named—Continued.

Stations.	Slower than Washington.		Faster than Washington.	
	Minutes.	Seconds.	Minutes.	Seconds.
N. Y	8	0	....	....
ton, Vt	....	....	15	2
l	48	8	....	....
ay, N. J	....	....	8	0
ton, S. C	11	6	....	....
ne, W. T	110	8	....	....
, Ill	42	4	....	....
ati, Ohio	30	0	....	....
d, Ohio	18	4	....	....
Utah	141	2	....	....
rt, Iowa	54	4	....	....
C. T	112	4	....	....
Mich	24	0	....	....
, Iowa	55	0	....	....
, Minn	60	4	....	....
, Me	....	....	45	0
	13	0	....	....
a, Mich	40	4	....	....
nton, M. T	134	4	....	....
son, C. N	72	0	....	....
ry, Manitoba	81	0	....	....
y, Dak	95	0	....	....
n, Texas	71	2	....	....
N. Y	0	0	....	....
aven, Mich	37	2	....	....
N. S	....	....	53	0
Cuba	22	8	....	....
olis, Ind	36	4	....	....
, Texas	78	0	....	....
lle, Fla	18	0	....	....
owa	58	0	....	....
, Fla	19	2	....	....
Canada	....	....	2	0
, Tenn	27	6	....	....
, Wis	57	0	....	....
, Fla	22	8	....	....
rth, Kans	72	0	....	....
, Ky	30	0	....	....
, Ky	35	6	....	....
gh, Va	8	0	....	....
Mich	41	1	....	....
Tenn	52	0	....	....
, Wis	43	6	....	....
	44	0	....	....
ry, Ala	37	6	....	....
Canada	....	....	14	0
n, W. Va	12	0	....	....
shington, N. H	....	....	22	8
Tenn	38	8	....	....
, Conn	....	....	16	4
n, Conn	....	....	19	6
s, La	52	0	....	....
N. Y	....	....	12	0
	....	....	3	2
r	75	6	....	....
Y	....	....	1	6
T	80	0	....	....
a, Pa	....	....	7	2
W				

Table showing the difference between local time and Washington mean time at the si stations named—Continued.

Stations.	Slower than Washington.		Faster th Washingt	
	Minutes.	Seconds.	Minutes.	Se on
Pike's Peak, C. T	112	34		
Pittsburgh, Pa	12	0		
Port Dover, Canada	13	0		
Port Stanley, Canada	17	0		
Portland, Maine			26	
Portland, Oreg	183	2		
Punta Rassa, Fla	20	0		
Quebec, Canada			24	
Rochester, N. Y	2	8		
San Antonio, Texas	87	0		
San Diego, Cal	160	8		
San Francisco, Cal	182	0		
Santa Fé, N. Mex	116	0		
Saugeen, Canada	18	0		
Savannah, Ga	16	4		
Shreveport, La	66	8		
Saint Louis, Mo	53	2		
Saint Paul, Minn	64	4		
Toledo, Ohio	26	4		
Toronto, Canada	9	6		
Vicksburgh, Miss	56	0		
Virginia City, M. T	140	0		
Wilmington, N. C	4	0		
Wood's Hole, Mass			26	
Wytheville, Va	16	0		
Yankton, Dak	82	0		

PAPER 19.

The following statement showing the location of the bench-marks from which rise and fall of the western rivers is measured for the river-reports of this offic published for the information of all concerned.

BROWNSVILLE, PA.

The zero point on gauge is the depth of water in the channel on June 5, 1873, wh was 5 feet.

BRUNSWICK, MO.

The zero of scale is the low-water mark at this point.

CAIRO, ILL.

The zero of gauge is placed at extreme low water of December, 1871. Extre high water occurred in 1867, when it reached the top of the levee, which is 53 f above low-water mark.

The bench-mark is the top of the levee.

CINCINNATI, OHIO.

The bench-mark is 20 inches above the bottom of the river—extreme low wat The high-water mark is a point 65 feet 5 inches above the bench-mark.

Extreme high water occurred March 7, 1865, and extreme low water September 1858.

CONFLUENCE, PA.

Depth of river May 19, 1873, 30 inches.
Depth of river at low-water mark, 12 inches.
Zero of gauge above low-water mark, 18 inches.

DAVENPORT, IOWA.

The gauge was constructed by Colonel Macomb, United States Engineers, on the pivot on draw-bridge pier of the Government bridge, between Davenport and Rock Island. It is in the Davenport channel, and is cut in the stone-work and painted in black and graduated into feet and tenths. Its zero point is the low water of 1863, the lowest water known.

EVANSVILLE, IND.

The zero of gauge is placed at low-water mark of 1867, being 6 feet above the bed of river. A survey made at 3 p. m., April 19, 1873, gave depth of water above low-water mark (1867) 25 feet 4 inches.

FORT BENTON, M. T.

The bench-marks are two iron bars let into river-bank, one at the highest water mark of 1872, the other 19 inches above the lowest water of 1872.

The measurements give the depth of water on the bar in front of the town. The depth of water over the bar at high water is 8 feet 10 inches—at low water not over 18 inches.

NOTE.—Observer ordered by Chief Signal-Officer to use low-water mark as the zero of river-reports instead of bench-mark.

FORT SULLY, D. T.

The means of measurement are two (2) poles planed square, 6 feet 6 inches long, and accurately graduated. They have to be changed daily "to accommodate" the river. The actual depth of water is reported.

FREEPORT, PA.

The bench-mark is 4 feet 6 inches above extreme low-water mark.

HERMANN, MO.

The gauge rests upon the bed of the river and indicates actual depth of water. Depth of water April 24, 1873, at 3 p. m., 12 feet.

JEFFERSON CITY, MO.

Reports are made from low water of 1867 and high water of 1844, the river in 1844 being 31 feet higher than low water of 1867.

Depth of water May 12, 1873, at 3 p. m., 10 feet 10 inches above low-water mark.

KANSAS CITY, MO.

Low-water mark, as established by the chief engineer Missouri River Bridge Company, was in 1867, it being then lower than at any time during which a record was kept. In 1872 it was down to within 7 inches of the mark of 1867. High-water mark, 1844.

KEOKUK, IOWA.

The bench-mark is at the northeast corner of Old Pilot's Indicator, 1,400 feet above the bridge. The height above low-water mark is 24.183 feet, and above high water 8.95 feet. The measurement is not made from the bed of river.

Depth of water in channel at extreme low water, 4 feet 6 inches, and at extreme high water, 24 feet 9 inches to 25 feet 4 inches.

LEAVENWORTH, KANS.

The zero of gauge is placed to correspond with low water in Missouri River. The bench-mark is low water. When the gauge reads 4 feet above zero, there is about 5 feet of water in the river. The bottom of the river changes with the rise and fall of the river.

LEXINGTON, MO.

The zero of gauge is at low-water mark of 1861, being 10 feet 8 inches above the bed of the river. Depth of water in river opposite to gauge, according to measurement made May 15, 1873, was 17 feet 10 inches from bed of the river.

LITTLE ROCK, ARK.

The bottom of gauge is marked 2 feet, and when the water is at that mark there is 2 feet of water in the river. All river-men go by this mark, and the same is reported to the packet company at Memphis and Saint Louis.

LOUISVILLE, KY.

The zero is the sill of the lock of the Louisville and Portland Canal. The ben mark is the door-sill of house corner of Tenth and Water streets, and is 28.1 feet ab zero. Extreme high water of February 21, 1832, is 41.8 feet above zero. The depth water is taken from a gauge at the foot of Tenth street, and is used by all river-m There is no mark that gives the depth of channel.

MARIETTA, OHIO.

Depth of water at time of first report, April 17, 1873, at 3 p. m., was 13 feet 10 inc in the channel.

MEMPHIS, TENN.

The bench-mark on Exchange Building is 148.789 feet above city-level from the of the river. High water from the same datum, 100.8 feet in 1867. Low water fr same datum, 65.05, December 25, 1872. Water about 70 feet deep in front of city low water. (?)

NASHVILLE, TENN.

The bench-mark is 62.75 feet above the zero of gauge. The zero corresponds to treme low water. Bench-mark 23.25 feet above highest water since Nashville been a signal-station. No definite data as to year of high and low-water marks be obtained.

MORGANTOWN, WEST VA.

The gauge rests upon the bed of the river, and reports indicate the exact depth water in the channel.

NEW ORLEANS, LA.

The bench-mark is high-water mark of 1871, (and is marked on the city tide-gau at which the zero of gauge (from which all river measurements are made) is pla From this point to the bottom of the river is approximately 178 feet. The zero is feet above sea-level and 10.5 feet below the city datum-line.

OMAHA, NEBR.

The gauge is attached to a pier of the Union Pacific Railroad bridge, and its zer the low-water mark of 1867. The high-water mark of the same year is 19 feet ab zero of gauge.

PADUCAH, KY.

Depth of water in channel of the river is 59 feet—May 23, 1873. Depth of water low zero of gauge, 56 feet. Low-water mark—depth of channel in 1854—8 fee inches.

PITTSBURGH, PA.

The gauge measures the depth of water in the channel. The greatest depth th can be measured by it is 35 feet; the least is two feet. When the water falls bel 2 feet another gauge is used. The lowest water-mark known is 9 inches in the cha nel; the highest water has never reached the top of gauge.

PLATTSMOUTH, NEBR.

There is no fixed bench-mark at this place. Depth of water at 3 p. m., April 19, 18 3 feet 3 inches.

SHREVEPORT, LA.

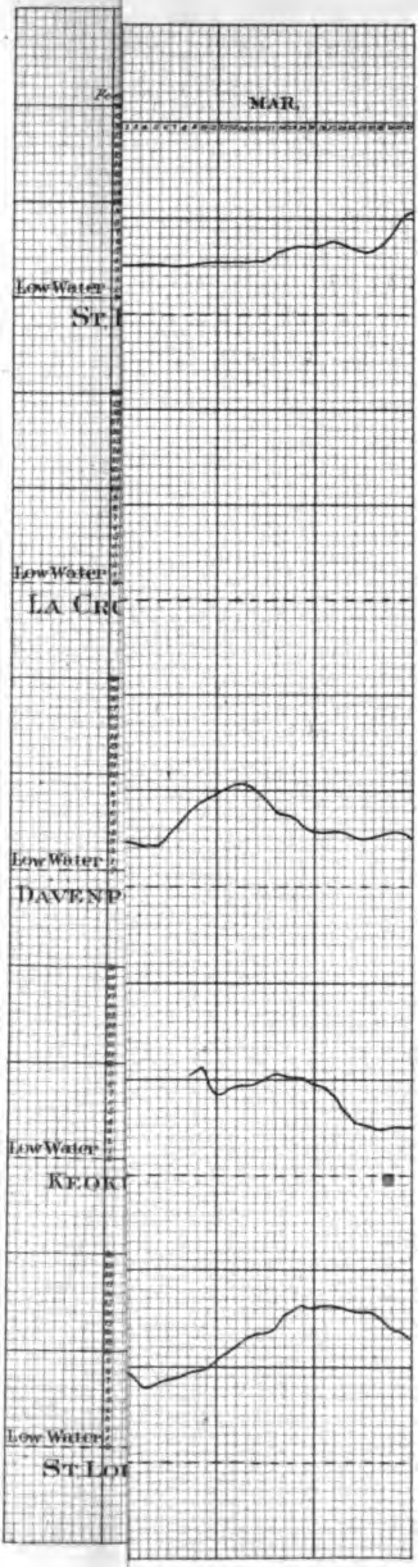
The bench-mark is on Commerce street, adjoining the "Transfer Grounds" of t Texas Pacific Railroad. The lowest water-mark, 1872, the reference point in reporti depth of river, is in the bed of river, and 40 feet below high water of 1849, and 25 fe above bottom of river. From bottom of river to high-water mark of 1849 is 65 feet.

SAINT JOSEPH, MO.

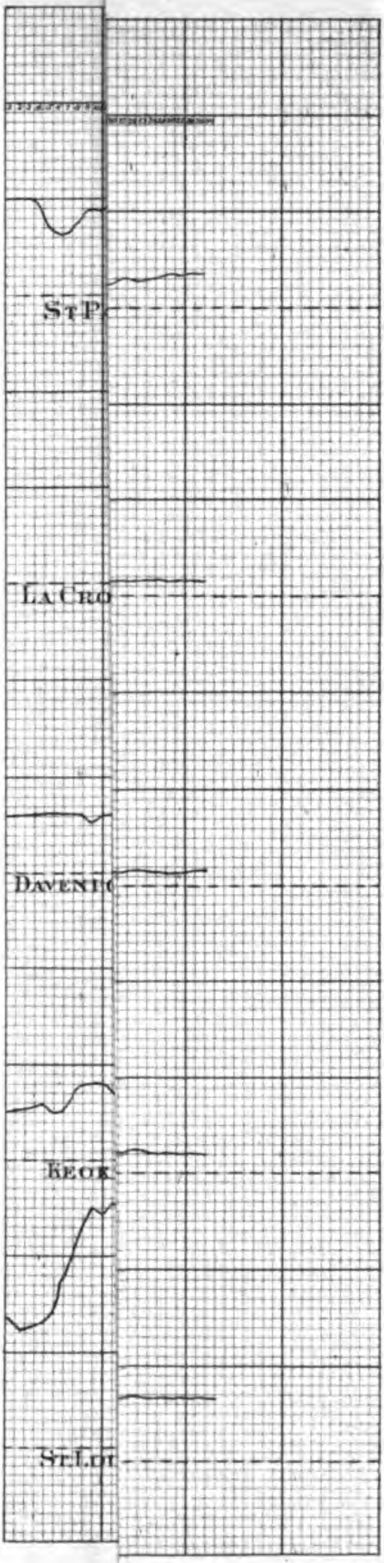
The zero of guage is at low-water mark of 1871. Depth of water from the river-b to the zero of guage is 8 feet. The navigable depth of water in the channel is 4 fe Usual depth on bars and shoals during low water is about 3 or 4 feet. From bed-ro to zero of the gauge at Saint Joe, as per the bridge measurement, is 50 feet.

SAINT LOUIS, MO.

The bench-mark is extreme low water of 1863, and high water of 1844. Range gauge between these two points is 41.39 feet. The gauge has stone foundation and located at the southeast corner of the Saint Louis elevator building.



N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.



PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D.C.

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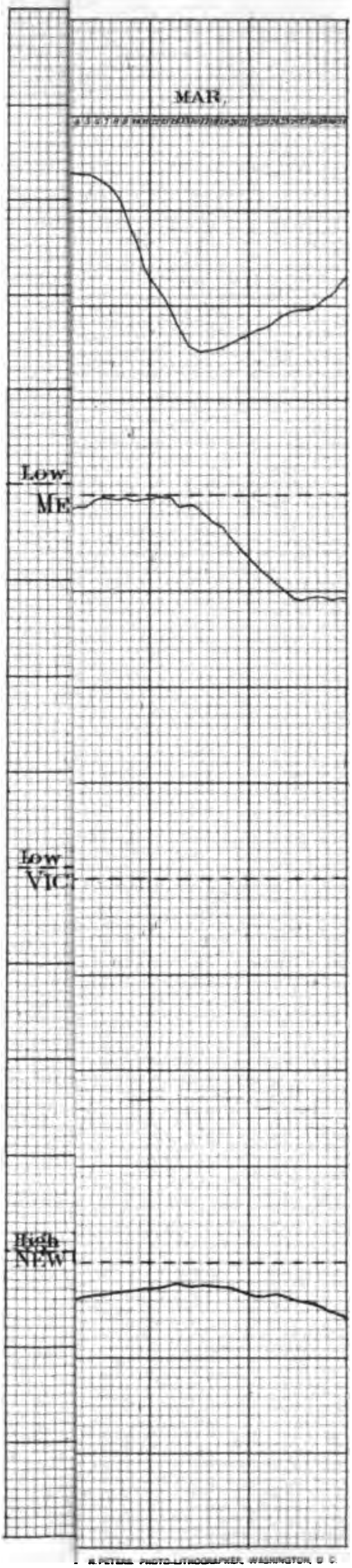

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

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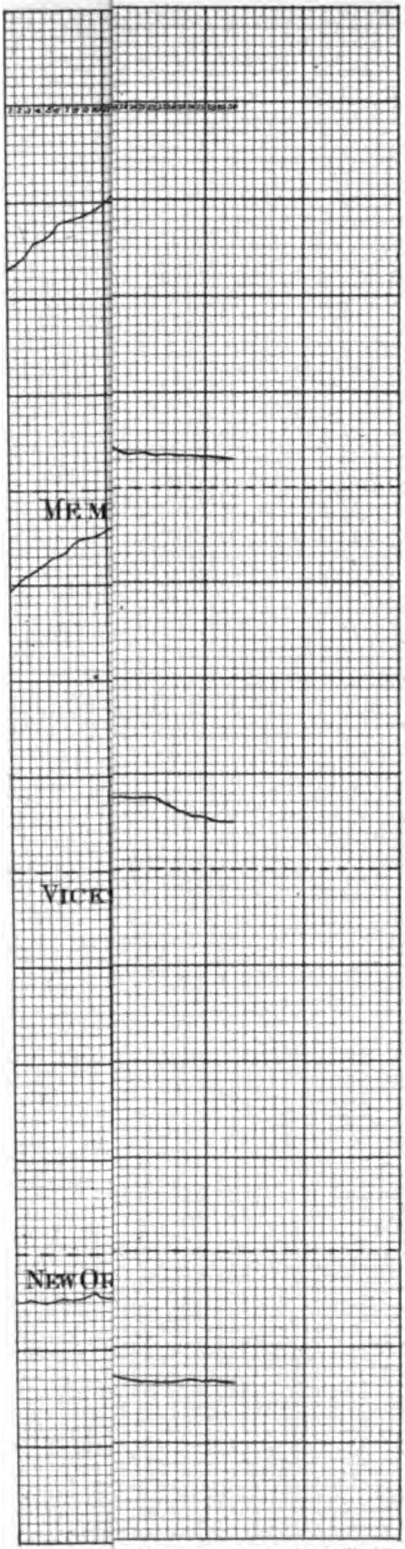

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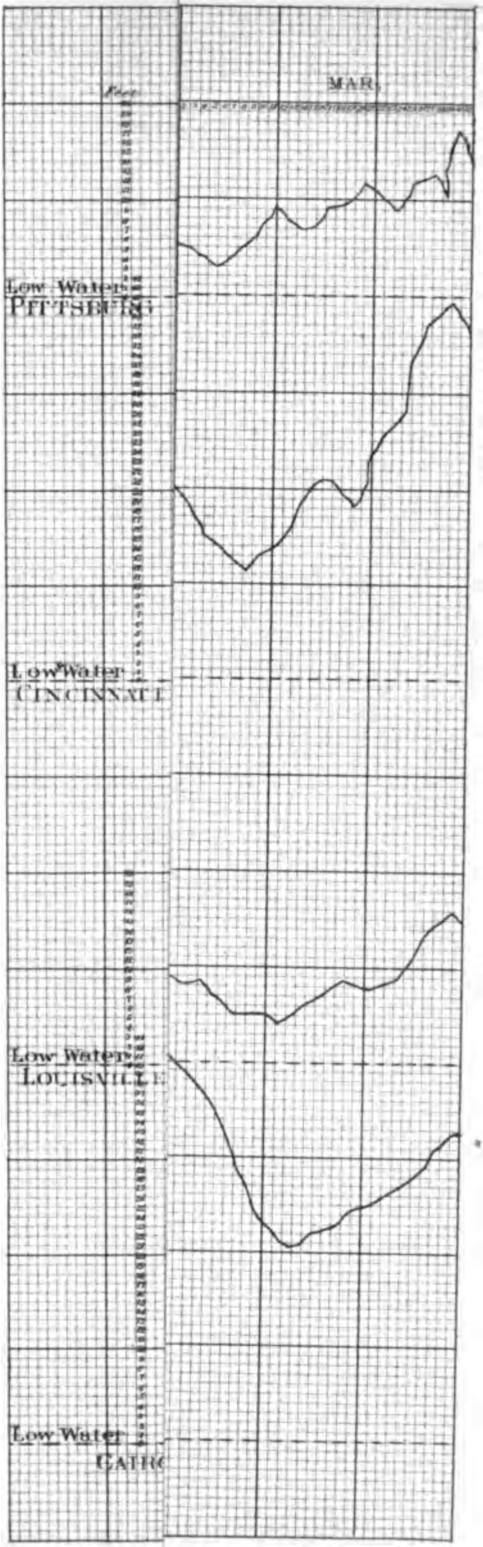

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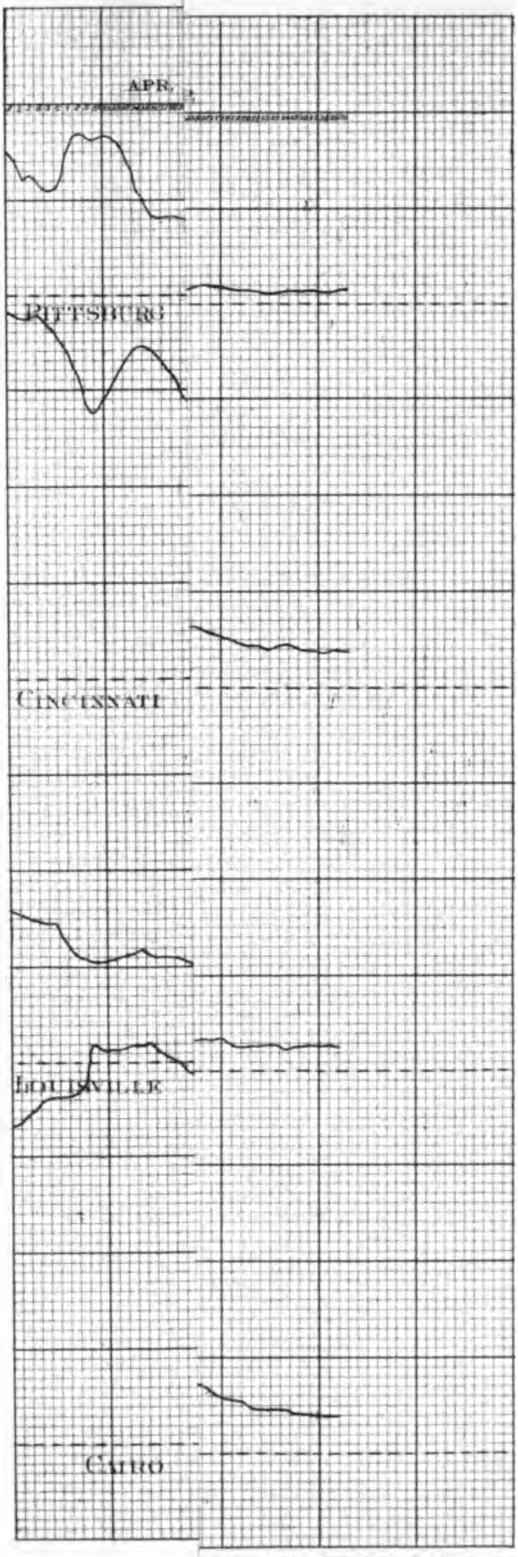

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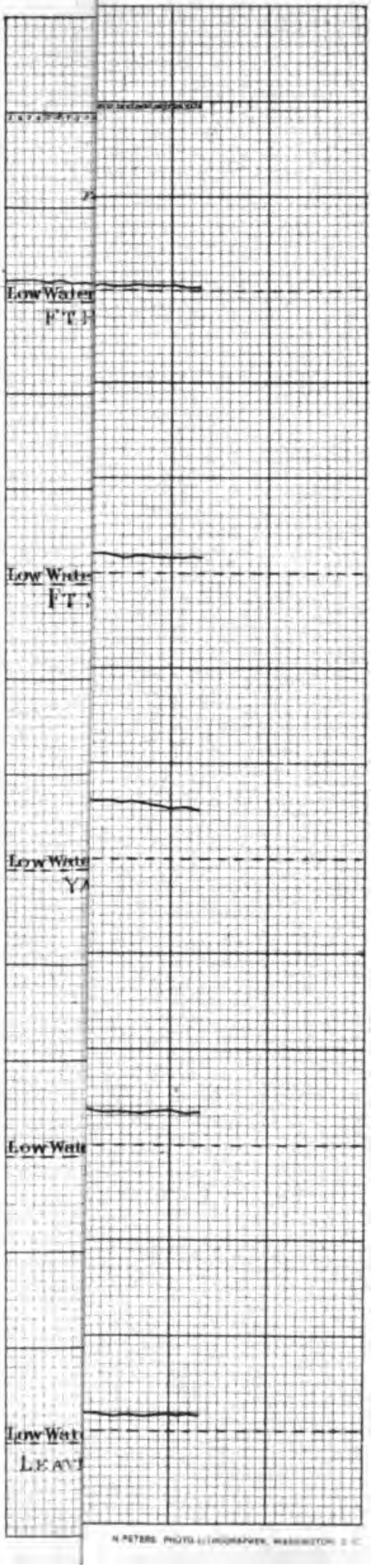

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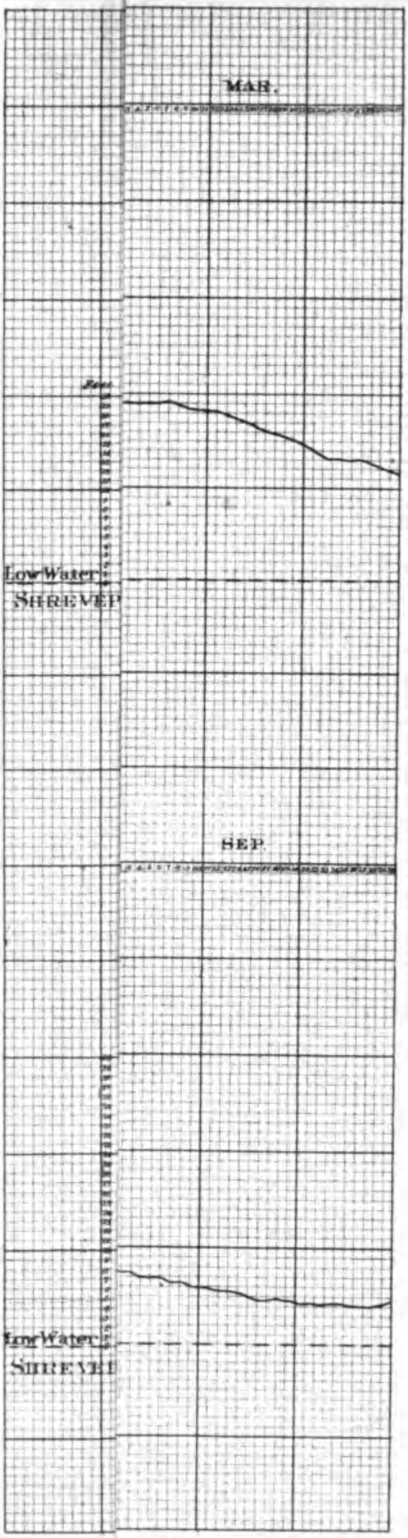

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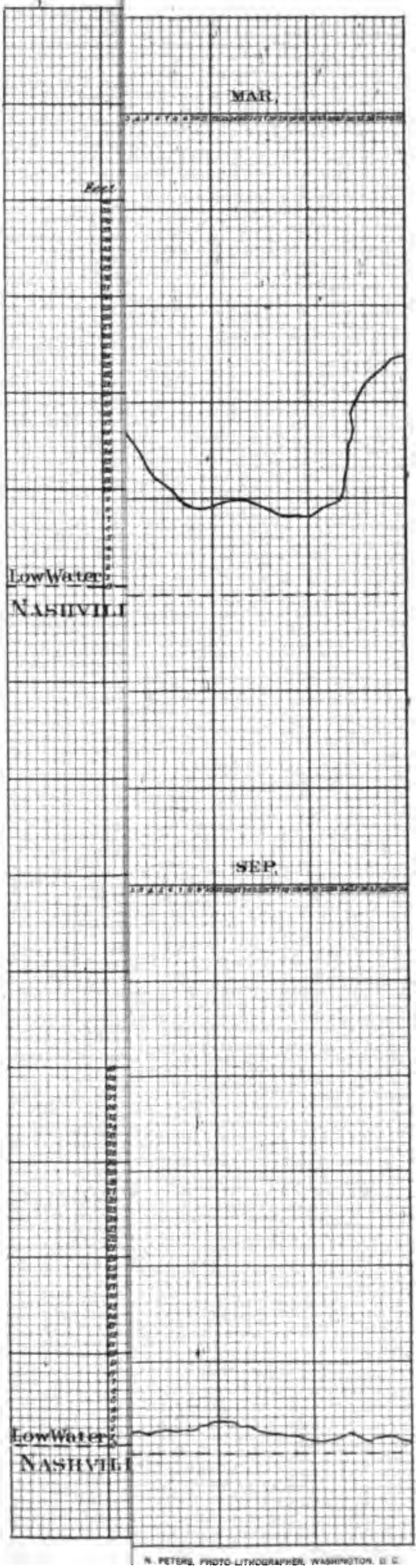


N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

SAINT PAUL, MINN.

The bench-mark is at the pier of the bridge and is marked at extreme low water of 1864. The daily report of river is the depth of water above that mark. The depth of water in the channel at extreme low water is 1 foot 11 inches. There is no high-water mark of any reliability.

VICKSBURGH, MISS.

The bench-mark is attached to one of the posts which supports tne elevator located on the levee between Crawford and South streets, and is low-water mark of 1871. From it all measurements are made and the zero of the gauge is adjusted to it. Extreme high-water mark of 1862 is 52.9 feet above the bench-mark. The river-bed is 50 feet 6 inches below, making the depth of water in the channel, when the river is at high-water mark, 103 feet 3 inches.

YANKTON, D. T.

The bed of river is the zero point of the gauge, and the actual depth of water in the channel is therefore reported.

LA CROSSE, WIS.

The zero of gauge is low-water mark of October 1, 1871, and is 2 feet 2¼ inches above the bed of the river. The gauge is attached to one of the piles of the bridge leading to North La Crosse.

OIL CITY, PA.

The "bench" is low water of some year when there was 12 inches of water in the channel. The zero of gauge corresponds with this point.

BOONEVILLE, MO.

Measurements are made from the bed of the river. Depth at high water of 1872, 12 feet; depth at low water, 2 feet 6 inches.

NEW GENEVA, PA.

The bench-mark (the zero of gauge) indicates 4 feet of water in the channel. The highest water occurred in April, 1852, when there was 40 feet of water in the channel.

LE CLAIRE, IOWA.

The gauge used here was built by the Pilot Association in 1865; its bottom (zero point) is at extreme low-water mark of 1864, which indicates 21 inches of water on the rapids.

DUBUQUE, IOWA.

The gauge used at this station is located at the foot of Seventh street. Its zero point is low-water mark of October, 1864, which is 21 feet 10 inches below the high-water mark of April 22, 1870. The average depth of water in the channel is 18 feet below the low-water mark of 1864.

PAPER 20.

REPORT OF INSTRUMENT-ROOM.

Number of instruments compared from October 1, 1872, to September 30, 1873.

Barometers	122
Thermometers	142
Hygrometers	42
Hygrodeiks	12
Maximum thermometers	39
Minimum thermometers	39
Anemometers	77
Aneroid barometers	6

These comparisons were carefully made by First Lieut. H. H. C. Dunwoody, acting signal-officer and assistant, and Sergts. George C. Schaeffer and D. C. Ralston, Signal-Service, United States Army.

Corrections for instrumental error of the several barometers have been comput uniformly from a series of fifty readings compared with a similar series of readings the standard barometer. When the result of these readings gave an error of mo than one-tenth of one inch, the instrument was regarded as unfit for use.

The thermometers have been compared with the standard at temperature varyi from that of melting ice to 130° Fahrenheit, the lower temperature being produced broken ice. For the indication of the higher temperature, the bulbs of the thermom ters were immersed in heated water.

In these comparisons a variation of one degree from the standard rendered the i strument unfit for use.

The following-named self-recording instruments have been in practical use in t instrument-room during the past year, and the records filed:

Hough's electrical printing barometer.
Hough's electrical recording barometer.
Wild's mechanical barometer.
Peelor's mechanical barometer.
Beck's aneroid barometer.
Photographic barometer.
Clum's aelleograph.
Hough's electrical meteorograph, (barometer, thermometer, and hygrometer.)
Wild's hygrometer and thermometer.
Photographic thermometers.
Gibbon's electrical recording anemometer.
Gibbon's electrical recording anemometer and anemoscope.
Beck's mechanical recording anemometer and anemoscope.
Wild's mechanical anemometer, anemoscope, and rain-gauge.
Draper's mechanical anemometer for velocity.
Draper's mechanical anemometer for pressure.
Draper's mechanical anemoscope.
Draper's mechanical rain-gauge.
Beckley's mechanical rain-gauge.
Gibbon's electrical recording tide-gauge.
Dunwoody's electrical tide-gauge.

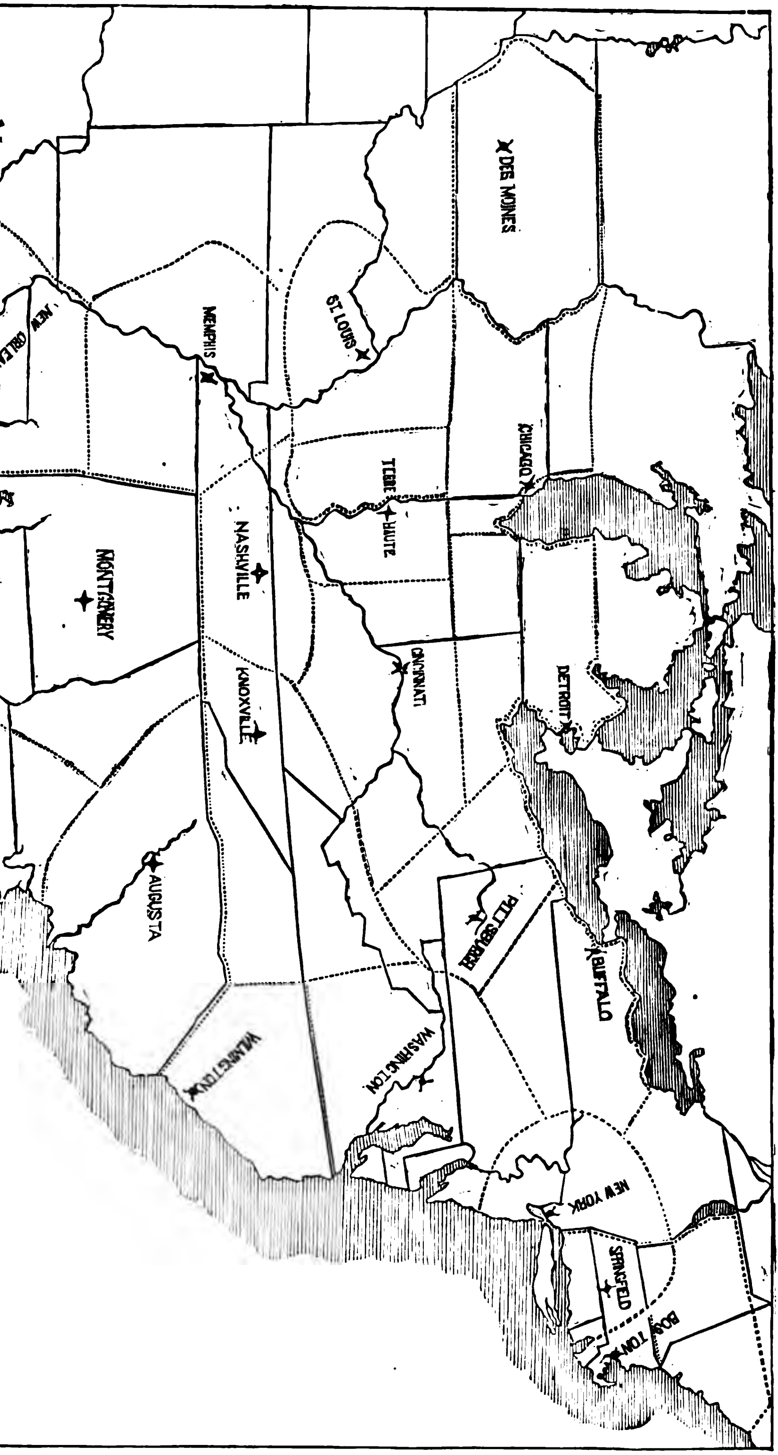
Two glass cases, in which are represented the different atmospheric phenomena, ha been constructed by Private P. A. Monnet, Signal-Service, United States Army. Bo cases contain specimens of clouds arranged in the style of a panorama. The small case gives only the principal outlines of the objects, and may be considered as a sh synopsis of that branch of meteorology. The larger case is more particularly adapt for nephelegraphic studies, each type of cloud being therein exhibited in its most ess tial character, and surrounded with its principal derivatives. The broader forms a those above them are separate types; whereas the two lower strata, being the terr trial range, correspond to combined meteors, viz: aqueous, aerial, and luminous. So phenomena of the last class, like haze, auroras, coloration at sunrise and sunset, c be produced at pleasure by optical attachments external to the case. The chief obj aimed at in both styles of representation is to trace the effects of atmospheric ag cies on aqueous vapor.

PAPER 21.

CORRESPONDENCE IN REFERENCE TO THE CO-OPERATION OF T POST-OFFICE AND WAR DEPARTMENTS IN THE DISTRIBUTION WEATHER-REPORTS.

WAR DEPARTMENT, OFFICE OF THE CHIEF SIGNAL-OFFICER,
DIVISION OF TELEGRAMS AND REPORTS
FOR THE BENEFIT OF COMMERCE AND AGRICULTURE,
Washington, D. C., December 7, 1872

SIR: I have the honor to request that instructions may issue to the postmasters the post-offices named in the accompanying list A, herewith, to display daily and stantly upon their receipt by mail, upon bulletin-boards, which will be furnished (if permitted by the Postmaster-General) from this office, the reports as to the proba condition of the weather in the sections in which these offices are located, which t office will furnish by mail daily in printed form, and addressed to the postmast named respectively. Under section 6 of the act of Congress entitled "An act to rev consolidate, and amend the statutes relating to the Post-Office Department," appro


DES MOINES
ST LOUIS
MEMPHIS
NEW ORLE
CHICAGO
TERRE HAUTE
NASHVILLE
MONTGOMERY
KNOXVILLE
CINCINNATI
DETROIT
PITTSBURGH
BUFFALO
AUGUSTA
WILMINGTON
WASHINGTON
NEW YORK
SPRINGFIELD
BOSTON

, 1872, the request of the honorable Postmaster-General that this publication be y the postmasters, or others in his service, as being for the public good, would have the effect of an order; but should there be question on this point, there none that most of the postmasters interested would gladly perform the duty as public good, and one reflecting credit upon the Department in which they

e Postmaster-General himself, whose good-will to this Bureau has been so often th such benefit to the Department evidenced, the Chief Signal-Officer does not ecessary to urge at length reasons for requesting his valuable co-operation. It ient to say that the plan suggested seems to offer a more immediate and extenthod of reaching the whole interior and agricultural populations of the United with information in which each citizen has an interest, than any hitherto put in ny country in the world.

tion is respectfully invited to the accompanying memorandum of the plan of tion.

am, sir, very respectfully, your obedient servant,

ALBERT J. MYER,
Brigadier-General and Chief Signal-Officer of the Army.

Ion. POSTMASTER-GENERAL.
rough the Hon. Secretary of War.)

PLAN OF WORK.

proposed to divide the territory east of the Mississippi River into districts of vo-hundred miles in diameter, each district having a distributing point at or center, from which two copies of the reports will be mailed daily to all postccessible by rail or mail-coach by 6 p. m. each day. At each office the posts to post one copy of each report, as soon as received, in a frame to be furn- the Signal-Office, which frame will be put up in a conspicuous part of the here it can be seen and the bulletins read by the public without difficulty.

cond copy is intended for the personal use of the postmaster, and may be dis- in the manner he thinks best calculated to diffuse the information it contains.

rt herewith illustrates the proposed form of districting.

MEMORANDUM.

tent of the co-operation required of the Post-Office Department is the transaily by mail of one additional letter to each post-office named in the schedules, putting up daily at such offices one copy of the bulletins furnished by the ffice.

WAR DEPARTMENT,
Washington City, December 9, 1872.

have the honor to inclose herewith a communication from the Chief Sigr of the Army, relative to distribution of the daily weather-reports, and to he co-operation of your Department in the mode indicated by him, if conith your views. The subject is one of public interest, and the plan appears f effecting a public good.

ry respectfully, your obedient servant,

WM. W. BELKNAP,
Secretary of War.

n. POSTMASTER-GENERAL.

POST-OFFICE DEPARTMENT,
Washington, D. C., December 11, 1872.

have the honor to acknowledge the receipt of your letter of the 9th instant a communication from the Chief Signal-Officer of the Army, with schedules for the co-operation of the Post-Office and War Departments in distributing weather-reports throughout the agricultural districts of the United States by rail or mail-coach, by 6 p. m. each day, from certain designated distribnts.

ly approve of the plan proposed by General Myer for extending to the agriections of the country the benefit of the information contained in the daily eports from the Signal-Office, and have issued an order under date of 9th instant, a copy of which is inclosed herewith, instructing all postmasters receivi these reports by mail to post them immediately in the frames supplied for that purpo by the Signal-Office.

Any further assistance that may be desired from this Department will be most che fully given.

I am, very respectfully, your obedient servant,

JNO. A. J. CRESWELL,
Postmaster-General.

Hon. WM. W. BELKNAP,
Secretary of War.

POST-OFFICE DEPARTMENT,
Washington, D. C., December 10, 1872.

Arrangements have been made between the Post-Office and War Departments i which one or more of the daily weather-reports issued by the signal-office will furnished daily to all the post-offices that can be reached from the several points distribution daily by mail. As these reports are designed for the benefit of the ag cultural as well as the commercial interests of the country, the Postmaster-General i structs all postmasters receiving them to post them *immediately* in the frames suppli for this purpose by the signal-office.

PAPER 22.

List of Agricultural Societies which, on September 30, 1873, had appointed permanent comm tees to confer with the Chief Signal-Officer of the Army.

Name of organization and State.	Committee.	Post-office address.
Monroe County Agricultural Society, Indiana.	T. H. Mallow	Bloomington, Ind.
Muskingum County Agricultural Society, Ohio.	R. S. Mershon	Zanesville, Ohio.
Louisville and Jefferson Counties Agricultural Society, Kentucky.	L. Young	Louisville, Ky.
Schuyler County Agricultural and Mechanical Society, Missouri.	John B. Glaze	Glenwood, Mo.
Highland County Agricultural Society, Ohio.	J. S. Bell	Hillsborough, Ohio.
	J. W. Ellis	
Arkansas State Agricultural and Mechanical Society, Arkansas.	Albert Cohen	Little Rock, Ark.
Bertie County Agricultural Society, North Carolina.	S. J. Wheeler	Windsor, N. C.
	J. B. Cheney	
	D. E. Tayloe	
Geauga County Agricultural Society, Ohio.	Dexter Witter	Burton, Ohio.
	George H. Ford	Do.
	Luther Russell	Do.
Otsego County Agricultural Society, New York.	G. Pomeroy Keese	Cooperstown, N. Y.
	H. M. Hooker	Do.
	Elisha Finney	Do.
Crawford County Agricultural Society, Pennsylvania.	A. P. Foster	Conneautville, Pa.
	Col. F. Manton	Do.
	Prof. W. H. Armstrong	Do.
Berrien County Agricultural Society, Michigan.	J. B. Fitzgerald	Niles, Mich.
	D. O. Woodruff	Do.
	William Bort	Do.
Greene County Agricultural Society, Missouri.	Dr. J. E. Tafft	Springfield, Mo.
	A. W. McPherson	Do.
	Rev. John E. Werth	Do.
Tolland County Agricultural Society, Connecticut.	George H. Kingsbury	Rockville, Conn.
	J. C. Hammond, jr	Do.

List of Agricultural Societies which, on September 30, 1873, had appointed permanent committees to confer with the Chief Signal-Officer of the Army—Continued.

Name of organization and State.	Committee.	Post-office address.
Burlington County Agricultural Society, New Jersey.	G. C. Brown	Mount Holly, N. J.
	M. S. Pancoast	Do.
	James Lippincott	Do.
Agricultural and Mechanical Society of Western Alabama, Alabama.	W. S. Bird	Eutaw, Ala.
	H. G. Webb	Do.
	A. T. Lupton	Tuscaloosa, Ala.
Crawford County Agricultural Society, Ohio.	G. Keller	Bucyrus, Ohio.
	E. R. Reamley	
	H. M. Scroggs	
	Josiah Koller	
Saratoga County Agricultural Society, New York.	B. S. Robinson	Greenfield Centre, N. Y.
Martin County Agricultural Society, Minnesota.	H. A. Munger	Fairmount, Minn.
California State Board of Agriculture, California.	J. N. Hoag	Sacramento, Cal.
	C. F. Reed	Do.
	F. M. Logan	Do.
Macon County Fruit-Growers' Association, Illinois.	Prof. E. A. Gastman	Decatur, Ill.
	Theo. Hildebrandt	
	J. B. R. Sherrick	
Missouri State Board of Agriculture, Missouri.	John H. Tice	Saint Louis, Mo.
	Rev. Charles Peabody	Do.
	Hon. G. W. Kinney	Snow Hill, Mo.
Jackson County Agricultural Society, Ohio.	Davis Mackley	Jackson Court-House, O.
	J. E. Ferree	Do.
	Jacob Dungan	Do.
Pike County Agricultural Society, Georgia.	J. S. Pope	Zebulon, Ga.
	J. H. Mitchell	Do.
	H. Green	Do.
Greene County Agricultural Society, New York.	A. P. Jones	Catskill, N. Y.
	G. C. Mott	Do.
York County Agricultural Society, Pennsylvania.	John Evans	York, Pa.
	G. A. Heckert	Do.
	W. S. Roland	Do.
Allamakee County Agricultural Society, Iowa.	Hon. Charles Paulk	Waukon, Iowa.
	A. M. May	Do.
	D. W. Read	Do.
Bay State Horticultural Society of California, California.	F. A. Miller	San Francisco, Cal.
	Prof. H. N. Bolender	Do.
Maine Board of Agriculture, Maine.	M. C. Fernald	Orono, Me.
	Prof. G. L. Goodale	Bowdoin College, Brunswick, Me.
	Prof. C. E. Hamlin	Colby University, Waterville, Me.
	C. F. Brackett	Bowdoin College, Brunswick, Me.
	Hon. S. F. Perley	Naples, Me.
Tuscola County Agricultural Society, Michigan.	C. C. Stoddard	Caro, Mich.
	Townsend North	Do.
	Dr. William Johnson	Do.
Central Iowa District Agricultural Association, Iowa.	P. F. Bartle	Des Moines, Iowa.
	M. W. Robinson	Do.
	D. V. Cate	Do.
South Carolina Agricultural and Mechanical Society, South Carolina.	Dr. F. P. Porcher	Charleston, S. C.
	Dr. T. T. Robertson	Winnsborough, S. C.
	Col. J. P. Thomas	Columbia, S. C.
Connecticut State Agricultural Society, Connecticut.	Hon. E. H. Hyde	Stafford, Conn.
	Hon. Thomas H. Butler	Norwalk, Conn.
	H. S. Collins	Collinsville, Conn.
Connecticut State Board of Agriculture, Connecticut.	Prof. W. H. Brewer	New Haven, Conn.
	W. H. Yeomans	Columbia, Conn.
	T. S. Gold	West Cornwall, Conn.

List of Agricultural Societies which, on September 30, 1873, had appointed permanent committees to confer with the Chief Signal-Officer of the Army—Continued.

Name of organization and State.	Committee.	Post-office address.
Terre Haute Horticultural Society, Indiana.	J. D. Foote	Terre Haute, Ind.
	J. F. Sanle	Do.
	John Weir	Do.
	Rev. — Stimson	Do.
	Joseph Gilbert	Do.
Middlesex County Farmers' Club, New Jersey.	G. H. Lambert	New Brunswick, N. J.
	G. W. Thompson	Do.
Farmers' Club, Utah	D. Tyler	Beaver City, Utah Ter.
	William Fotheringham	Do.
	J. L. Smith	Do.
Indiana State Board of Agriculture, Indiana.	T. C. Johnson	New Albany, Ind.
	Thomas Dowling	Terre Haute, Ind.
	J. D. G. Nelson	Fort Wayne, Ind.
Rhode Island Society for the Encouragement of Domestic Industry, Rhode Island.	Dr. J. W. Sawyer	Providence, R. I.
	J. T. Smith	Do.
	Dr. W. F. Channing	Do.
Washington County Agricultural Society, New York.	M. Ingalsbe	South Hartford, N. Y.
	R. W. Pratt	Do.
Farmers and Fruit-Growers' Association of Illinois, Illinois.	Dr. W. West	Belleville, Ill.
	F. H. Pieper	Do.
	E. W. West	Do.
Iowa State Horticultural Society, Iowa.	Prof. Charles E. Bessey	State Agricultural College, Ames, Iowa.
	Hon. John Scott	Nevada, Iowa.
	G. B. Brackett	Denmark, Iowa.
Addison County Agricultural Society, Vermont.	Prof. W. H. Parker	Middlebury College, Middlebury, Vt.
	Prof. H. M. Seely	Middlebury College, Middlebury, Vt.
	Prof. E. Brainerd	Middlebury College, Middlebury, Vt.
Orleans County Agricultural Society, Vermont.	D. M. Camp	Newport, Vt.
	T. H. Haskins	Do.
	Z. E. Jameson	Irasburgh, Vt.
Bradley County Agricultural and Mechanical Society, Tennessee.	T. L. Cate	Cleveland, Tenn.
	J. C. Morgan	Do.
	Dr. G. A. Long	Do.
Iowa State Agricultural Society, Iowa.	Peter Melendy	Cedar Falls, Iowa.
	S. B. Hewitt, jr	Eagle Grove, Iowa.
	J. M. Shaffer	Fairfield, Iowa.
Carroll and Choctaw Counties Agricultural Society, Mississippi.	A. M. Rafter	Winona, Miss.
	T. J. Blackmoore	Do.
	O. J. Moore	Do.
Belmont Farmers' Club, Mississippi	A. M. Rafter	Winona, Miss.
	W. W. Dabney	Do.
	Jas. Thompson	Do.
Broome County Agricultural Society, New York.	E. G. Crafts	Binghamton, N. Y.
	T. F. Roberts	Do.
	Arch. Stone	Do.
	P. Van Vredenberg	Do.
Bureau County Agricultural Society, Illinois.	George W. Stone	Princeton, Ill.
	A. Bryant, jr	Do.
	H. L. Baltwood	Do.
Essex County Agricultural Society, Massachusetts.	Charles P. Preston	Danvers, Mass.
	William Sutton	Salem, Mass.
	A. W. Dodge	Do.
Kokomo Horticultural Society, Indiana.	L. J. Templin	Kokomo, Ind.
	L. W. Leach	Do.
	C. S. Boggs	Do.
Jo. Daviess, La Fayette, and Stephenson Union Agricultural Society, Illinois.	A. M. Jones	Warren, Ill.

List of Agricultural Societies which, on September 30, 1873, had appointed permanent committees to confer with the Chief Signal-Officer of the Army—Continued.

Name of organization and State.	Committee.	Post-office address.
Marshall County Agricultural Society, Iowa.	Byron Webster	Marshalltown, Iowa.
	John Turner	Do.
	S. P. Kinsley	Do.
Coles County Agricultural Society, Illinois.	D. C. M. Evans	Charleston, Ill.
	Charles Penatel	Do.
Rock County Agricultural Society, Wisconsin.	Dr. J. B. Whiting	Janesville, Wis.
Waupaca Agricultural and Mechanical Association, Wisconsin.	H. C. Mead	Waupaca, Wis.
	W. Scott	Do.
	E. Cooledge	Do.
Ingham County Agricultural Society, Michigan.	Allen Rowe	Mason, Mich.
	A. M. Chapin	Eden, Mich.
	William Rayner	Mason, Mich.
Fillmore and Mower Counties Agricultural Society.	Dr. A. F. Whitman	Spring Valley, Minn.
	H. S. Hart	Do.
	W. L. Kellogg	Do.
	B. F. Farmer	Do.
	William McNee	Do.
	E. S. Bumstead	Do.
	George W. Farmer	Do.
	W. Allen	Do.
	D. Rathbun	Do.
Marion County Agricultural Society, Ohio.	H. M. Ault	Marion, Ohio.
	H. A. True	Do.
	J. K. Newcomer	Do.
Humphreys County Farmers' Club, Tennessee.	Rev. A. A. Wilson	Waverly, Tenn.
	T. U. Harris	Do.
	W. A. Hollinger	Do.
	A. R. Lankford	Johnsville, Tenn.
Luzerne County Agricultural Society, Pennsylvania.	Steuben Jenkins	Wyoming, Pa.
	Rev. Abel Parker	Do.
	Dr. J. M. Lewis	Do.
	Dr. J. B. Crawford	Wilkesbarre, Pa.
	Dr. C. R. Gorman	Pittston, Pa.
	Dr. B. H. Throop	Scranton, Pa.
	Dr. R. H. Tubbs	Kingston, Pa.
Atlanta Union Central Agricultural Society, Illinois.	S. D. Fisher	Atlanta, Ill.
	William P. Hunt	Do.
	Daniel McFarland,	McLean, Ill.
Howard County Agricultural Society, Iowa.	H. D. Noble	Cresco, Iowa.
	Stephen Rodford	Chester, Iowa.
	C. S. Thurber	Cresco, Iowa.
Outagamie County Agricultural Society, Wisconsin.	W. H. P. Bogan	Appleton, Wis.
	Edwin Nye	Freedom, Wis.
	N. B. Clark	Ellington, Wis.
	Louis Perrott	Greenville, Wis.
Lawrence County Agricultural and Industrial Association, Ohio.	Dr. G. S. B. Hempstead.	Hanging Rock, Ohio.
	Cyrus Ellison	Ironton, Ohio.
	Hiram Campbell	Do.
	H. W. Gillett	Quaker Bottom, Ohio.
	Samuel Burke	Arabia, Ohio.
Miami County Agricultural Society, Ohio.	W. W. Crane	Tippecanoe City, Ohio.
Michigan State Pomological Society, Michigan.	A. T. Linderman	Grand Rapids, Mich.
	C. L. Whitney	Muskegon, Mich.
	Edward Bradfield	Ada, Mich.
Lamoille County Agricultural Society, Vermont.	George Wilkins	Stowe, Vt.
	H. H. Powers	Morrisville, Vt.
	G. L. Waterman	Hyde Park, Vt.
Sheboygan County German Agricultural and Trades Association, Wisconsin.	Ferd. Stoesser	Sheboygan, Wis.
	Frederick Must	Do.
	Fred. Zimmerman	Do.
	Albert Mohlendorf	Do.
	Thomas Blackstock	Do.

List of Agricultural Societies which, on September 30, 1873, *had appointed permanent comm tees to confer with the Chief Signal-Officer of the Army*—Continued.

Name of organization and State.	Committee.	Post-office address.
Walworth County Agricultural Society, Wisconsin.	Peter Golder	Elk Horn, Wis.
	David Williams	Darien, Wis.
	Charles E. Buhre	Geneva, Wis.
Floyd County Agricultural Society, Iowa.	E. C. Chapin	Charles City, Iowa.
Edgar County Agricultural Society, Illinois.	Walter Booth	Paris, Ill.
	B. Halcomb	Do.
	D. P. Elliott	Do.
Perry County Agricultural and Mechanical Association, Indiana.	I. F. Patterson	Rome, Ind.
	I. I. Wheeler	Do.
	Ad. Ackerman	Do.
Davis County Agricultural Society, Iowa.	Howard Willey	Bloomfield, Iowa.
	Wm. J. Hamilton	Do.
	T. A. Walker	Do.
	A. Rankin	Belknap, Iowa.
	William Hill	Bloomfield, Iowa.
Utah County Agricultural and Home Manufacturing Society, Utah.	Hon. George Bean	Provo, Utah.
	C. D. Evans	Springville, Utah.
	Daniel Graves	Provo, Utah.
Ontario County Agricultural Society, New York.	Cooper Sayre	Oak's Corners, N. Y.
	John S. Coe	Canandaigua, N. Y.
Washington County Agricultural and Mechanical Association, Virginia.	Rev. George R. Barr	Abingdon, Va.
	J. L. White	Do.
	Thomas Cosby	Do.
Otoe County Agricultural Society, Nebraska.	J. W. Pearman	Nebraska City, Nebr.
	W. W. Wardell	Do.
Lake County Agricultural Society, Ohio.	D. W. Mead	Painesville, Ohio.
	C. C. Jennings	Do.
	George Blish	Do.
Page County Agricultural Society, Iowa.	S. H. Kiddlebaugh	Clorinda, Iowa.
	S. W. Peterson	Do.
	J. L. Barrett	Do.
Kings Creek Valley Farmers' Club, Ohio.	Thomas Cowgill	Kennard, Ohio.
Cerro Gordo County Agricultural Society, Iowa.	George R. Miller	Mason City, Iowa.
	T. G. Emsley	Do.
	A. Wilson	Owen's Grove, Iowa
	Henry Martin	Mason City, Iowa.
	C. W. Tenney	Plymouth, Iowa.
Northumberland County Agricultural Society, Pennsylvania.	Dr. E. H. Horner	Turbotville, Pa.
	William A. Dean	Do.
	Thomas Barr	Do.
Johnson County Agricultural and Mechanical Association, Kansas.	John M. Giffen	Olathe, Kans.
	Henry McBride	Do.
	J. M. Hadley	Do.
Albany County Agricultural and Industrial Society, New York.	Hon. Geo. A. Tweddle	Albany, N. Y.
	J. Winne	Bethlehem Centre, N
	J. H. Farrell	Albany, N. Y.
Pike County Agricultural Society, Mississippi.	D. M. Pound	Magnolia, Miss.
Warren County Agricultural Society, New York.	Charles W. Osborn	Warrensburgh, N. Y.
Shenandoah Valley Agricultural Society, Virginia.	Edmund Pendleton	Winchester, Va.
	Dr. W. J. Best	Brucetown, Va.
	J. C. Baker	Winchester, Va.
	Jarvis Jennings	Millwood, Va.
	Edwin S. Baker	Winchester, Va.
Wabaunsee County Central Agricultural and Horticultural Society, Kansas.	William Coleman	Eskridge, Kans.
	William Rinehart	Do.
	George Reynolds	Do.
Oswego County Agricultural Society, New York.	Henry L. Davis	Oswego, N. Y.
	P. M. Newton	Sandy Creek, N. Y.
	Hiram Walker	Union Square, N. Y.
	Thomas H. Austin	New Haven, N. Y.
	Harry Palmer	Paris, N. Y.

Agricultural Societies which, on September 30, 1873, had appointed permanent committees to confer with the Chief Signal-Officer of the Army—Continued.

e of organization and State.	Committee.	Post-office address.
ssee Central Fair Association, essee.	W. P. Henderson	Murfreesboro', Tenn.
County Agricultural Society, ois.	Dr. J. O. Hamilton	Jerseyville, Ill.
	George H. Jackson	Do.
	William Shephard	Do.
n County Agricultural Soci- New York.	R. E. Robie	Bath, N. Y.
wan County Agricultural ty, Minnesota.	W. W. Murphy	Madelia, Minn.
e County Agricultural and cultural Society, Illinois.	G. W. Vaughan	Sullivan, Ill.
	E. W. Mills	Do.
gricultural and Mechanical Association, Georgia.	Thomas J. Perry	Rome, Ga.
	Thomas W. Alexander	Do.
irginia Central Agricultural lechanical Society, Virginia.	Lee Haymond	Clarksburgh, W. Va.
	R. T. Lownder	Do.
	Thomas S. Spates	Do.
	Dr. W. M. Late	Bridgeport, W. Va.
	Henry Bassell	Brown's Creek, W. Va.
unty Agricultural Society, ia.	Dr. M. F. Stephenson	Gainesville, Ga.
	J. E. Redwine	Do.
County Agricultural Soci- hio.	H. Y. Beebe	
	E. R. Wait	
	John Meharg	
aw County Agricultural y, Iowa.	L. J. Young	Chickasaw, Ohio.
	H. M. Mixer	New Hampton, Iowa.
	Buel Sherman	Fredericksburgh, Iowa.
State Agricultural Society, ia.	F. G. Ruffin	Richmond, Va.
	Col. William C. Knight	Do.
	Dr. Wm. T. Walker	Dover Mines, Goochland, Va.
ural and Mechanical Socie- lleghany County, of Mary- and West Virginia, and lvania.	Charles C. Shriver	Cumberland, Md.
	J. B. H. Campbell	Do.
	R. L. Gross	Do.
Farmers' Club, Delaware.	M. Hayes	
	J. H. Bateman	
	C. H. B. Day	
County Agricultural Soci- liana.	I. R. Holston	Anderson, Ind.
	William Crim	Do.
	James Hazlitt	Do.
	M. G. Walker	Pendleton, Ind.
	N. G. Tomlinson	Alexandria, Ind.
	Thomas Beckworth	Perkinsville, Ind.
on of pomologists, Michi-	Henry S. Clubb	Grand Haven, Mich.
	Samuel B. Peck	Muskegon, Mich.
	C. L. Whiting	Do.
nological and Horticul- ciety of Michigan, Michi-	W. K. Kedzie	Lansing, Mich.
n County Agricultural Ohio.	W. A. Humes	Urbana, Ohio.
County Agricultural So- wa.	Lyman J. Curtis	Independence, Iowa.
	Dr. George Worne	Do.
	Jed. Lake	Do.
shire State Agricultural New Hampshire.	Hon. Samuel N. Bell	Manchester, N. H.
	Hon. Frederick Smyth	Do.
	General Nathaniel Head	Hooksett, N. H.
County Agricultural So- nsas.	O. A. A. Gardner	Bellville, Kans.
n Farmers' Club, Penn-	T. W. Trego	Doylestown, Pa.
	H. T. Darlington	Do.
	D. E. Brower	Do.

List of Agricultural Societies which, on September 30, 1873, had appointed permanent co tees to confer with the Chief Signal-Officer of the Army—Continued.

Name of organization and State.	Committee.	Post-office addres
Franklin County Agricultural Society, Maine.	D. H. Knowlton	Farmington, Me.
	L. F. Green	East Wilton, Me.
	P. P. Tufts	Farmington, Me.
Oxford County Agricultural Society, Maine.	Howard D. Smith	Norway, Me.
	A. C. T. Smith	South Paris, Me.
Iowa County Agricultural Society, Iowa.	J. Root, jr	Marengo, Iowa.
	J. C. Clark	Foote, Iowa.
	A. H. Simpson	Victor, Iowa.
Ephrata Agricultural and Scientific Society, Pennsylvania.	W. H. Spera	Ephrata, Pa.
Warsaw Horticultural Society, Illinois.	B. Whitaker.	Warsaw, Ill.
	J. W. Hollowbush	Do.
	Charles Hay	Do.
State Grange of Patrons of Husbandry, South Carolina.	John B. Moore	Edgefield, S. C.
	D. W. Aiken	Cokesbury, S. C.
	Benjamin Allston	Georgetown, S. C.

PAPER 23.

List of Boards of Trade, Chambers of Commerce, and other organizations, apart from directly connected with agriculture, which had on September 30, 1873, appointed perma committees to confer with the Chief Signal-Officer of the Army.

Name of organization.	State.	Committee.
Chamber of Commerce of New York.	New York	George W. Dow, M. Ma J. D. Jones, Charle Curtis.
Board of Trade of Buffalo	New York	Alonzo Richmond, Ge Hazard, John H. Va
Board of Underwriters of New York.	New York	John D. Jones, Da Drake Smith, Ellw Walter, Alfred Ogde
Board of Trade of Toledo	Ohio	W. T. Walker, M. D. rington, A. W. Col C. A. King.
Board of Trade of Washington	District of Columbia.	J. W. Thompson, A. S. S mons, R. M. Hall.
Board of Trade of Detroit	Michigan	J. Aspinwall, G. W. Bis E. W. Hudson.
Board of Trade of Chicago	Illinois	C. Randolph, D. H. Den E. T. Lawrence.
Board of Trade of Boston	Massachusetts	Robert S. Perkins, M. Ross, John Cummi E. H. Sampson.
Chamber of Commerce of Milwaukee.	Wisconsin	John L. Hathaway, J Merrill, L. R. Duran
Board of Trade of Nashville	Tennessee	James Whitworth, R. Kirkpatrick, Dr. W. Berry, E. D. Hicks, Cochrill.
Chamber of Commerce of Du Luth.	Minnesota	Charles M. Cushman.
Board of Trade of Baltimore	Maryland	H. L. Whitridge, Rober Kirkland, Benjamin Hodges, jr., J. Pleasants.
Board of Trade of New London	Connecticut	James T. Skinner, Ge P. Rogers.
Board of Trade of San Francisco	California	R. R. Swain, J. De Fre R. G. Sneath, C. A. L
Board of Trade of Cleveland	Ohio	R. K. Winslow, R. F. L J. C. Sage.

List of Boards of Trade, Chambers of Commerce, &c.—Continued.

Name of organization.	State.	Committee.
er of Commerce of Charles-	South Carolina	E. H. Frost, W. P. Hall, T. W. Dawson.
of Trade of Charleston	South Carolina	Hon. George A. Trenholm, Professor F. S. Holme, E. Lafitte.
er of Commerce of Memphis.	Tennessee	B. J. Semmes, H. H. Higbee, Thomas H. Allen.
f Trade of Oswego	New York	A. H. Failing, W. J. Malcolm.
f Trade of Omaha	Nebraska	A. D. Jones, G. H. Collins, M. Stephens, Col. J. Patrick, C. C. Housel.
tee appointed by mayor of ster.	New York	Joshua A. Eaton, Charles A. Poole, Geo. Schofield.
f Trade of Portland	Maine	C. H. Farley, J. S. Bedlow, M. N. Rich.
f Trade at Philadelphia	Pennsylvania	Henry Winsor, Thomas C. Hand, Thomas L. Gillespie, George N. Fotham, George N. Allen, James Hand.
Trade of Mobile	Alabama	J. M. Thompson, J. Y. Thompson, Daniel Jones.
of Commerce of Savannah.	Georgia	Charles Green, president; Robert N. Gourdon, vice-president.
of Commerce of Wilming-	North Carolina	A. H. Van Bokkelen, Geo. Harriss, W. L. DeRossett.
Trade of Norfolk	Virginia	Dr. S. K. Jackson, W. A. Graves, E. C. Lindsay.
Trade of Indianapolis	Indiana	D. M. Berry, E. F. Cox, John E. Wright, W. R. Nofsinger, S. T. Bowen.
of Commerce of Saint	Minnesota	R. Ormsby Sweeney, Rev. J. Mattocks, J. Fletcher Williams.
Trade of Burlington	Vermont	G. G. Benedict, Prof. Peter Collier, Prof. McK. Petty.
Ierchants' Exchange of ouis.	Missouri	Geo. P. Plant, R. P. Taney, W. H. Scudder.
of Commerce of Galves-	Texas	J. S. Thrasher, W. Richardson, C. G. Forshey.
Trade of Shreveport	Louisiana.	George Williamson, R. D. Sale, George A. Pike.
of Commerce of San Diego.	California	Douglass Gunn, C. A. Jones, J. S. Gordon.
hia County Medical So-	Pennsylvania	Lawrence Turnbull.
Trade of Davenport	Iowa	James M. Dalzell, Edward Russell, F. A. Angel.
Trade of Jacksonville	Florida	A. S. Baldwin.
f Commerce of Indianola.	Texas	G. Seeligson, W. P. Milby, D. Sullivan.
Trade of La Crosse	Wisconsin	Wm. W. Jones, James J. Lyndes, S. L. Nevins.
change of New Orleans	Louisiana	John J. Noble, Cyrus Bussey, Thomas Henderson.
of Commerce of New	Connecticut	Johnson T. Platt, Mayor Lewis, E. S. Wheeler.
f Commerce of Cairo	Illinois	W. P. Halliday, Charles M. Howe, Peter Cuhl.
rade of Cincinnati	Ohio	Daniel B. Pierson.
rade of Dubuque	Iowa	Dr. Asa Horr, Franklin Hinds, R. J. Gibbs.

PAPER 24.—(Form 31.)

WAR DEPARTMENT, OFFICE OF THE CHIEF SIGNAL-OFFICER,

DIVISION OF TELEGRAMS AND REPORTS FOR THE BENEFIT OF COMMERCE AND AGRICULTURE.

Report of observations on temperature of water at ——— for the week ending Saturday, ———, 187–.

Day and date.	Time of observation.	Temperature of air.	Temperature of water at surface.	Temperature of water at bottom.	Depth of water.	Remarks.
Sunday...						
Monday ..						
Tuesday..						
Wed'sday.						
Thursday.						
Friday ...						
Saturday .						

——— ———, *Observer.*

NOTE.—Two copies of this form will be forwarded weekly to the Chief Signal-Officer, Washington, D. C.

WAR DEPARTMENT, OFFICE OF THE CHIEF SIGNAL-OFFICER,

F TELEGRAMS AND REPORTS FOR THE BENEFIT OF COMMERCE AND AGRICULTURE.

bservations on temperature of water at —— for the week ending Saturday, ——, 187–.

Time of observation.	Temperature of air.	Temperature of water at surface.	Temperature of water at bottom.	Depth of water.	Remarks.

—— ——, *Observer.*

copies of this form will be forwarded weekly to the Chief Signal-Officer,
. C.

PAPER 25.

List of places for which stations have been requested, but not established on September 30, 1

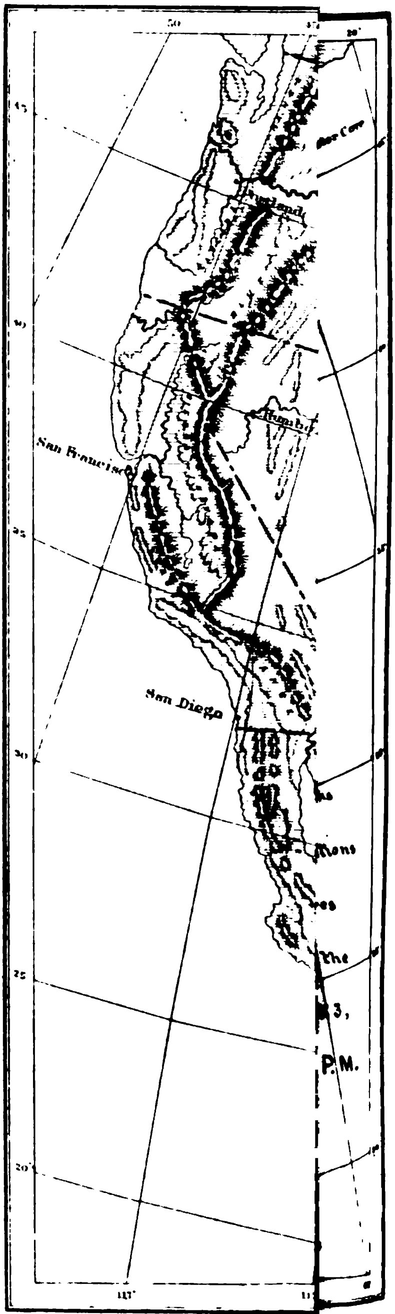
Place.	Applicant.	Date.
Muskegon, Mich	Hon. H. H. Holt, Michigan legislature, inclosing petition of 99 citizens.	Jan. 21, 18
	Board of Trade, Toledo	Jan. 27, 18
	Board of Trade, Chicago	Feb. 10, 18
	Hon. T. W. Ferry, U. S. Senate	Mar. 3, 18
Manitowoc, Wis	Hon. P. Sawyer, M. C	Jan. 25, 18
Huron City, Mich	Board of Trade, Toledo	Jan. 27, 18
	Board of Trade, Cleveland	Feb. 19, 18
	Board of Trade, Detroit	Feb. 19, 18
Mackinac, Mich	Board of Trade, Chicago	Feb. 10, 18
Richmond, Va	W. G. Turpin	Apr. 3, 18
Cape Henry, Va Body Island, N. C Cape Hatteras, N. C	Board of Trade, Norfolk, Va., and resolution of the general assembly of Virginia.	Apr. 17, 18
Lewes, Del	Board of Trade, Philadelphia	May 25, 18
Park's, Colo	E. J. Mallett, late consul-general	May 24, 18
Staten Island	C. Keutgen, jr	June 9, 18
Chambersburgh, Pa	Hon. John Scott, U. S. Senate	June 12, 18
	Hon. Simon Cameron, U. S. Senate	June 12, 18
Watertown, N. Y	L. L. Pratt	June 21, 18
Xenia, Ohio	C. E. Case	June 30, 18
Port Hope	Board of Trade, Detroit, Mich	July 22, 18
Illinois Industrial University, Champaign, Ill.	Hon. W. C. Flagg, secretary	July 21, 18
	Hon. J. M. Gregory, president	Feb. 21, 18
Little Rock, Ark	Hon. J. M. Hawks, M. C	July 26, 18
	Albert Cohen	July 1, 18
Sacramento, Cal	J. N. Hoag, secretary California State Board of Agriculture.	July 26, 18
	Concurrent resolution of the legislature of California, presented by Dr. T. M. Logan, secretary State board of health.	May 15, 18 Jan. 10, 18
Niles, Mich	J. B. Fitzgerald, secretary Berrien County Agricultural Society.	July 27, 18
Hot Springs, Ark	J. H. Morton, M. D	Aug. 2, 18
Louisiana, Mo	William Stark R. E. Pleasants	Aug. 3, 18
Janesville, Wis	J. B. Whiting, M. D Rock County Agricultural Society	Aug. 7, 18
Hillsdale, Mich	Professor George M. Millen, secretary Hillsdale College.	Aug. 6, 18
	Hillsdale County Agricultural Society	Aug. 6, 18
Metamora, Ill	Edward Kipp, secretary Woodford County Agricultural Society.	Aug. 8, 18
Marietta, Ohio	J. W. Andrews, president Marietta College.	Aug. 10, 18
	Washington County Agricultural Society	Aug. 10, 1
Mount Pleasant Academy, Pennsylvania.	W. H. McCrey, Mount Pleasant Academy and Normal School.	Aug. 11, 1
Nebraska City, Neb	H. K. Raymond, secretary Otoe County Farmers' Club.	Aug. 14, 1
Mount Moosilauke, N. H	Professor C. H. Hitchcock	Aug. 16, 1
	A. F. Clough	Aug. 16, 1
Catasauqua, Pa	Hon. E. McPherson, Clerk U. S. House of Representatives.	Sept. 11, 1
Galena, Ill	Dr. Wilmot Scott, editor Galena Commercial Advertiser.	Sept. 14, 1
Columbus, Nebr	J. O. Shannon, secretary Platte County Agricultural Society.	Sept. 5, 1
Farther Point Canada, Coburg, Canada Collingwood, Canada	Oswego Board of Trade, by J. L. McWhorter.	Aug. 30, 1

List of places for which stations have been requested, &c.—Continued.

Place.	Applicant.	Date.
d, Mo	John E. Worth, for Greene County Agricultural and Mechanical Society.	Sept. 18, 1871.
on, Mich	Board of Trade, Buffalo	Sept. 22, 1871.
ty, Iowa	T. G. Emsley, secretary Cerro Gordo County Agricultural Society.	Oct. 6, 1871.
e	M. C. Fernald, Maine State College of Agriculture.	Oct. 19, 1871.
 gan, Ala x	Agent and captains of Morgan Steamship Company.	Oct. 31, 1871.
lall, Dak	R. J. Percy, for Missouri Valley Telegraph Company.	Nov. 9, 1871.
y of Michigan, Ann	Professor G. B. Merriman	Nov. 28, 1871.
y, Manitoba	N. McDougall	Dec. 2, 1871.
Colo	R. F. Song, editor El Paso Ranchman	Dec. 4, 1871.
le	C. A. Boutelle, editor Whig and Courier	Dec. 14, 1871.
Haven, Mass	Professor J. E. Hilgard, United States Coast Survey. Daniel W. Stevens Rev. Thos. Hill	 Dec. 18, 1871.
Rhode Island	Hon. H. B. Anthony, U. S. Senate, forwarding memorial of 29 citizens. Capt. S. A. Day, United States Army	Dec. 8, 1871. July 26, 1872.
, Mass	Hon. B. F. Butler, M. C	Dec. 19, 1871.
, Iowa	John P. Irish	Dec. 14, 1871.
Va	George C. Round	Dec. 27, 1871.
l	H. A. Hill, secretary National Board of Trade.	Jan. 4, 1872.
nt, N. H	John B. Stivens, mayor	Jan. 13, 1872.
on, Del	Board of Trade	Jan. 24, 1872.
stations on east- re of Lake Mich-	Hon. H. H. Holt, Michigan legislature	Feb. 11, 1871.
stations on ins of Virginia.	G. C. Wedderburn, secretary Virginia Telegraph Company. L. A. Gobright, Associated Press	May 7, 1871.
stations on west- pe of Mississippi	George P. Plant W. H. Scudder R. P. Fansey, committee of Merchants' Exchange, Saint Louis, Mo.	 May 7, 1871. July 16, 1871.
Light, Monomoy Cape Cod, Mass.	B. B. Forbes, recommended by Hon. James Buffinton, M. C.	Nov. 29, 1871.
Pass, Pass à l'Outre	Thornton A. Jenkins, Rear-Admiral U. S. Navy.	Mar. 20, 1871.
Va.; Christian- Va.; Bristol, Easton, Pa.; urgh, Pa.; Win- Va.	Jed. Hotchkiss	Aug. 15, 1871.
Kans	M. D. Ellis	Feb. 12, 1872.
ne, Black Mount- C.	William Cain	Feb. 12, 1872.
N. Y	J. Eaton, and thirty-five others	Feb. 14, 1872.
ltoona, on Penn- Central Rail-	David Peelor	Feb. 17, 1872.
of Minnesota, polis.	William W. Folwell, president	Feb. 21, 1872.
e State agricul- lleges.	J. B. Bowman, regent Kentucky University, and others.	Feb. 29, 1872.
Ohio	J. H. Klippart, secretary of Ohio State Board of Agriculture.	Mar. 5, 1872.

List of places for which stations have been requested, &c.—Continued.

Place.	Applicant.	Date.
Norwich University, Northfield, Vt.	Capt. C. A. Curtis	Mar. 15, 1872
Grand Tower, Ill	A. R. Harris	Mar. 21, 1872
Iuka, Miss	Rev. J. T. Freeman, through Hon. George E. Harris, M. C.	Mar. 25, 1872
Great Natihalee, Bald Mountain, N. C.	Charles W. Jenks	Apr. 1, 1872
Deposit, N. Y	G. W. Hanford	Apr. 1, 1872
Heilman Dale	S. P. Heilman	Apr. 1, 1872
Booneville, Mo.	J. L. Stephens	Apr. 11, 1872
Fort Wayne, Ind New Albany, Ind	F. C. Johnson, Indiana State Board of Agriculture.	Apr. 12, 1872
Maryland Agricultural College.	A. R. Davis, president board of trustees.	Apr. 19, 1872
San Antonio, Tex	Thomas G. Williams	May 10, 1872
Atlanta, Ga	Hon. John H. James, mayor	May 10, 1872
Auburn, Ala.; Agricultural and Mechanical College of Alabama.	William C. Stubbs John B. Reed W. H. Jenison	May 14, 1872
Racine, Wis	Mayor and council	May 18, 1872
Ogdensburgh, N. Y	Hon. W. A. Wheeler, M. C	May 25, 1872
Plattsburgh, N. Y	Hon. John Rogers, M. C	May 28, 1872
Sewanee, Tenn	John L. Cooper, through Professor Joseph Henry, Smithsonian Institution.	June 10, 1872
Newark College, Delaware	William D. Mackey, secretary	June 11, 1872
Green Bay, Wis	Hon. P. Sawyer, M. C	June 13, 1872
Kenosha, Wis	Wallace Mygatt	June 20, 1872
Warsaw, Ind	Marshall H. Parks	June 24, 1872
Beaver City, Utah	Daniel Tyler	July 8, 1872
New Ulm, Minn	Dr. Alfred Miller	July 10, 1872
Evansville, Ind	F. C. Johnson P. Hornbrook, surveyor of customs Thomas P. Britton, president Vanderburgh County Agricultural Society. John Ingle, secretary Vanderburgh County Agricultural Society. Charles, Butterfield, Mayor	July 13, 1872
Aiken, S. C	Hon. F. A. Sawyer, U. S. Senate, and sixteen citizens. John C. Derby	July 16, 1872 Sept. 2, 1872
Winona, Miss	A. M. Rafter	July 20, 1872
Eutaw, Ala	W. S. Bird	July 20, 1872
Belfast, Me	George E. Brackett	Aug. 6, 1872
Ithica, N. Y., Cornell University.	A. D. White, president, petition of seventy-five citizens.	Aug. 8, 1872
Straits of Mackinac	Roys I. Cram	Aug. 7, 1872
Carthage, Ill	L. F. M. Easterday, petition of one hundred and five citizens.	Sept. 2, 1872
Kutztown, Pa	A. R. Hornel, principal Keystone State Normal School.	Sept. 13, 1872
Pensacola, Fla	Pensacola Ice Company M. H. Sullivan, and 29 others	Oct. 7, 1872
Gainesville, Ga	M. F. Stephenson	Nov. 5, 1872
Chattanooga and some point between Leavenworth and Shreveport.	Steamboat-men's convention assembled at Cairo.	Nov. 17, 1872
Dallas, Tex	W. A. Jones & Co W. C. Connor, and one hundred and thirty-three others.	Dec. 26, 1872
On plains of Western Kansas, and regions southward and southwestward.	Kansas State Horticultural Society	Dec. 21, 1872



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List of places for which stations have been requested, &c.—Continued.

Place.	Applicant.	Date.
il City and Parker's Landing, on the Allegheny River. reensborough and Brownsville, on the Monongahela.	Resolution of select council of Pittsburgh, transmitting and approving petition of 46 citizens of Pittsburgh.	Dec. 28, 1872. Jan. 10, 1873.
niversity of Kansas, Lawrence.	John Fraser, chancellor	Jan. 16, 1873.
anchester, N. H	Hon. S. N. Bell, M. C., inclosing resolution of New Hampshire State Agricultural Society.	Jan. 21, 1873.
ndwich, Ill	N. E. Ballou, through Commissioner of Agriculture.	Jan. 22, 1873.
etroit, Minn	Daniel Coney	Feb. 2, 1873.
ayton, Ohio	Isaac Strohen	Feb. 11, 1873.
ilatka, Fla	J. F. Starr, through Secretary of the Navy.	Feb. 17, 1873.
ut-in-Bay, Ohio	H. B. West H. D. Cooke, govornor of the District of Columbia.	Mar. 3, 1873. July 17, 1873.
mporia, Kans	Robert Milliken	Mar. 6, 1873.
orth and west of Galveston, Tex.	Chamber of Commerce, through John Hancock.	Mar. 6, 1873.
harlotteville, Va., University of Virginia.	R. T. W. Duke, M. C	Mar. 2, 1873.
aleigh, N. C	Cotton Exchange, New Orleans, La	Mar. 30, 1873.
olumbia, S. C	Mayor of city and city council	June 11, 1873.
olumbus, Miss	Cotton Exchange, New Orleans, La	Mar. 30, 1873.
eirce City, Mo	E. P. Lingee	Apr. 9, 1873.
eshanic, N. J	John V. D. Pumyea	Apr. 12, 1873.
ay City, Mich	N. B. Bradley, M. C	Apr. 27, 1873.
incennes, Ind	W. Hays	June 15, 1873.
pringfield, Ill	S. M. Cullom, petition of governor, State officers, &c.	July 5, 1873.
edar Keys, Fla	Albert E. Willard, mayor, and 16 others.	July 7, 1873.
alina, Kans	Freeman Kingman	July 17, 1873.
lleghanies	George W. Warren, jr	July 26, 1873.
arthage, Mo	E. P. Searle, Henry C. Henney, C. C. Allen, and others.	Aug 15, 1873.
ewberne, N. C	George W. Nasson, jr	Sept. 13, 1873.
ort Townsend, Wash. Ter	Puget Sound Telegraph	Sept. 30, 1873.

PAPER 26.

MONTHLY WEATHER-REVIEW, OCTOBER, 1872.

STORMS.

The progress over the country of thirteen storm-centers has, during the month, been raced upon the War Department weather-maps, Signal Service, United States Army. he most severe of these storms was that which, from the 21st to the 27th, traveled om the Gulf northeastward over the South Atlantic and Middle States, and thence stward over southern New England into the Atlantic, attended throughout its course y heavy rains and brisk to high winds, increasing at times to gales. These rains ere particularly heavy in Northeastern Florida and Southeastern Virginia, over 6 ches of water falling during the storm at Jacksonville, and nearly 7¼ inches at Norlk. Of the remainder of these disturbances nine pursued an irregular eastward ourse from the northwest over the lake region into Canada or New York or New England to Brunswick or Nova Scotia; one moved from Texas eastward into the Gulf, here it disappeared; one nearly northward from off Cape Cod across Maine to New runswick, and one from Kansas and Nebraska eastward over the Ohio Valley to Viriinia.

RAIN-FALL.

The returns from the signal-service stations show that an excess of rain over the mean for the month has fallen on the Atlantic coast, except in Maine and Southeastern Connecticut, and throughout the Middle States and lower lake region, excepting westtern Lake Erie. This surplus amounts to 4.32 inches at Jacksonville, Fla., 4.89 at Rochester, and 7.07 at Norfolk, but is less at other stations in the sections, varying from 1 to 2 inches. A slight excess has also fallen in the western portions of Tennessee and Minnesota, and eastern parts of Nebraska and Kansas. There has been a deficiency of about an inch in northern New England, interior portions of South Carolina and Georgia and throughout the Gulf States, excepting Florida, while in Central and Eastern Tennessee, Western Kentucky, the Upper Mississippi Valley and over the upper lake region the figures show a general deficiency of about 2 inches. The precipitation has been very slight at the Rocky Mountain stations and on the Pacific coast, apparently less than the mean for October.

TEMPERATURE.

The mean temperatures for this month show but little variation from the means for October at most of the signal-service stations. At the Rocky Mountains, on the Pacific, and western Gulf coasts, in Eastern Iowa and Southern Wisconsin, and throughout the Atlantic States, from Florida to Rhode Island, temperatures slightly cooler than usual have been experienced, the variation below the mean for the month being greatest at Milwaukee and on the coast of Georgia and the Carolinas where it amounts to about 3°. In all other sections the temperature has been slightly above the average for October. The month has, however, been much cooler than October, 1871, everywhere in the Mississippi Valley and eastward, this difference of the mean temperature being greatest in Florida, Georgia, and from the Ohio Valley to the lower lakes and southern portion of the upper lake region, amounting in these sections to from 3° to 6°

MONTHLY WEATHER-REVIEW, NOVEMBER, 1872.

STORMS.

During this month twenty-four storm-centers have traversed various parts of th country east of the Rocky Mountains. Fifteen of these disturbances have pursued a irregular eastward course from the northwest over the lake region to Canada, or, crossing the Saint Lawrence Valley, have traveled eastward over Maine and New Brunswick two have moved from the Upper Mississippi Valley eastward to Virginia, and thenc along the coast to New England; four have crossed the country diagonally from the southwest to New England and the eastern British provinces; one from Texas across the northern portion of the Gulf to Florida; and two, which were probably central at som distance from the coast, have been felt along the Atlantic sea-board.

Destructive gales have attended the progress of many of these storm-centers, particularly over the upper lake region, in the Saint Lawrence Valley, and on the middle and east Atlantic coasts. Their approach has, however, been heralded by the display during the month of sixty-eight cautionary-signals at the lake stations — fourteen on the Atlantic coast and six on the Gulf.

RAIN-FALL.

Notwithstanding the number of storms which have visited the country during th month, the returns from the signal-service stations show that the precipitation ha been generally less than the mean for November at the Rocky Mountain stations, i Florida, the Southwest, (except Southeastern Texas and Southern Louisiana,) the Northwest, the Ohio Valley, and throughout the lake region. The figures show this deficienc to be greatest over the section of country extending from Kansas eastward to Kentuck and Ohio, averaging about 2 inches, but amounting to over 4 inches in Central Indiana An excess of rain has fallen in the Carolinas, Georgia, Eastern Tennessee, Central Alabama, Southern Louisiana, and Southeastern Texas, while about the average quantitie are reported from the Middle and Eastern States, except the western portions of Pennsylvania and New York, where the amounts are below the mean.

TEMPERATURE.

The mean temperatures for the month at the various signal-service stations sho that the month has been colder than usual everywhere from the Atlantic to the Rock Mountains, excepting, perhaps, in Montana. Areas of high barometric pressure, attended by low temperatures for the season, have, in several instances, followed clo after the storm-centers, causing cold "northers" in the Southern States, and fierc cold, westerly gales over the Northwest and upper lake region. The variation of th

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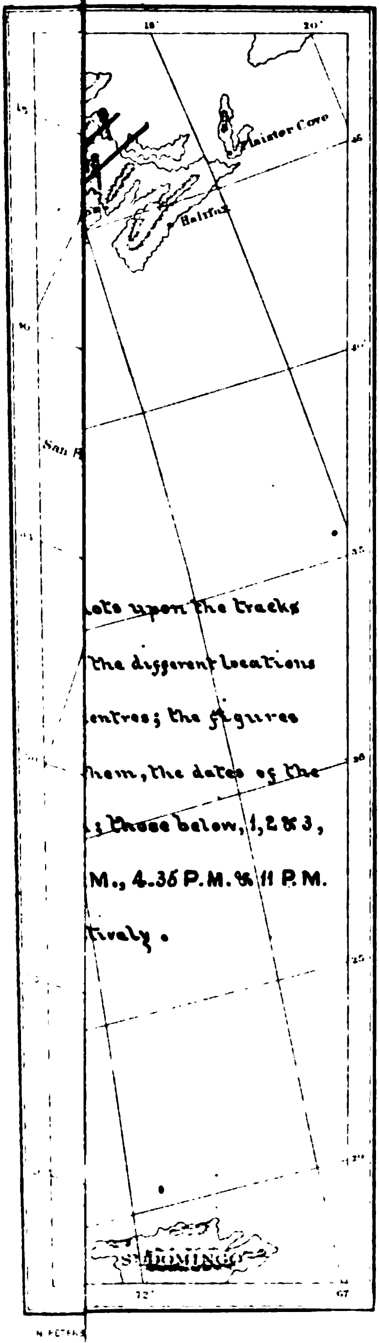

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N. PETERS

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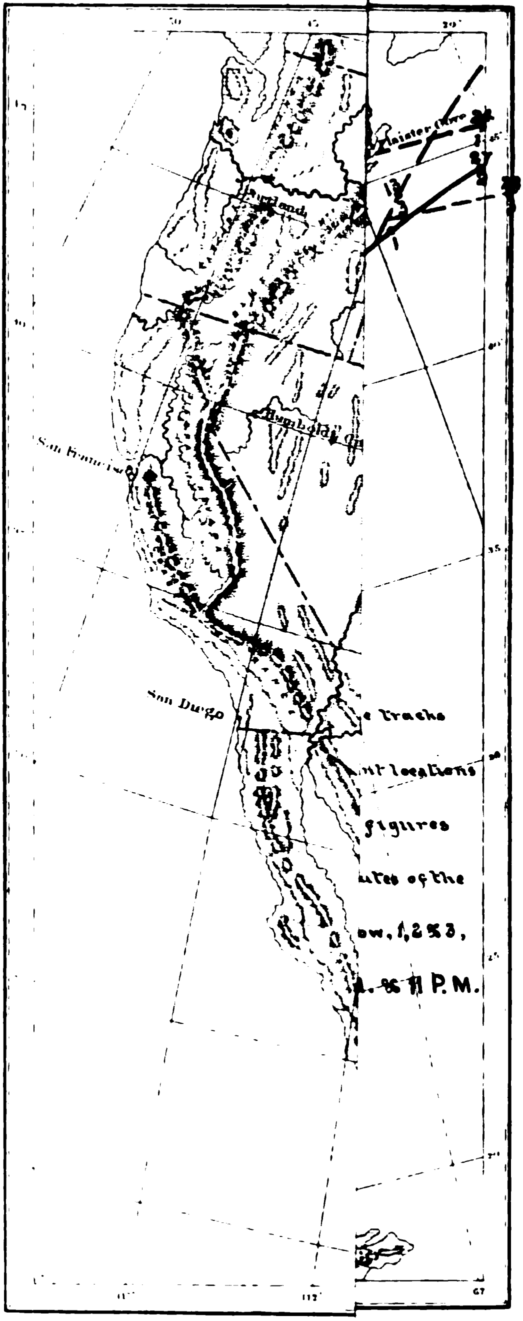


N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

nperature below the mean for November has, consequently, been greatest in ions, amounting to from 3° to 8°. Compared with November of last year lower ures have prevailed everywhere east of the Rocky Mountains, except in New New York, New Jersey, and Eastern Pennsylvania. Thus the mean temperature than the same for November, 1871, by 3°.1 at New London, 3°.3 at Portland, 8°.7 at Burlington, Vt., but lower by 5°.1 at Savannah, 7°.4 at Jacksonville, at Mobile, 7°.6 at Cincinnati, 4° at Saint Paul, and 4°.8 at Escanaba, Mich.

MONTHLY WEATHER-REVIEW, DECEMBER, 1872,

STORMS.

this month no less than twenty-seven storm-centers have been traced in their ver various parts of the country upon the War Department weather-maps, vice, United States Army. Two of these storms have apparently traveled cross the country from the Pacific coast, but the paths of the remainder are nfined to the country east of the Rocky Mountains, and are about equally tween the two favorite winter-routes of these disturbances, the one from the eastward over the lake region and northern New England to the eastern ovinces, and the other from the southwest northeastward to the Middle New England, or eastward along the Gulf coast, thence following the trend ntic coast northeastward toward Nova Scotia. The usual attending high gales of the winter storms have been experienced in nearly all parts of the ut their approach has been announced by the display of forty-two cautionary- the lake ports, thirty-two on the Atlantic coast, and three on the Gulf.

RAIN-FALL.

rns from the signal-service stations show that an excess of rain, amounting o 5 inches above the mean rain-falls for December, has, during the month, exas, Louisiana, and Western Mississippi. A surplus, varying from 1.12 2.69 inches, has also fallen in Southern Virginia, North Carolina, Eastern interior portions of South Carolina and Georgia, and in Northeastern n all other sections east of the Rocky Mountains (excepting at New London, Leavenworth, and Breckenridge, which exhibit amounts slightly above the figures show that the fall of rain and snow has been less than the average ber. This deficiency is comparatively small for New England, the Middle lower lake region, but is large in Western Tennessee, the Ohio and Upper Valleys, and over the country adjacent to Lakes Michigan and Superior, the on having been scarcely one-fourth as much as the average for the month ations in these sections.

TEMPERATURE.

temperatures for the month at the signal-service stations compared with the eratures for December, as ascertained by a long series of observations, show nth has been much colder than usual everywhere east of the Rocky Mount- excess of cold amounts to from 5° to 7° at stations in all parts of the coun- Chicago, Milwaukee, Leavenworth, Breckenridge, and Rochester it amounts Much colder weather has prevailed than in December, 1871, in all sections erritories, except from Virginia to Southern New Jersey, and from Nebraska Illinois, where the temperatures have been about the same. This unusually her may be attributed to the large number of areas of high barometer, or heric waves, which, with their attending low temperatures, have rolled ountry from west to east. No less than fifteen of these areas of high press- en traced upon the weather-maps for this month, while during the corre- nth last year only nine made their appearance.

MONTHLY WEATHER-REVIEW, JANUARY, 1873.

STORMS.

past month the progress of twelve storm-centers has been traced on the s of the signal-service. Of these, three have crossed the country in a d direction from Texas to New England and the British provinces; five have moved from the extreme northwest eastward over the lakes into Canada or Ne England; one from Manitoba over Lake Superior into Canada; two northeastward u the Atlantic coast to the Eastern States and Nova Scotia or Canada; and one has pr gressed eastward through the Gulf States, and thence northeastward up the coast.

Of these storms the most severe have been that of the 7th and 8th in the north west, and that which from the 21st to the 24th crossed the country from Texas to Nov Scotia. The westerly winds closely following the center of the former increased t strong gales, which, with heavy snow and temperatures far below zero, served to rend it one of the most terrific which has visited that section for many years. The latt (that of the 21st) was very extensive in its effects, as during its course nearly the whol country east of the Rocky Mountains was reached by its rain or snow-belts. Its north easterly gales were felt with most severity from Lake Michigan to Lake Erie, and heav snows fell from Kansas and Missouri northeastward to Canada.

Twenty-four cautionary-signals were displayed during the month at points on th middle and east Atlantic coasts, and two on the Gulf coast.

RAIN-FALL.

The monthly rain-fall returns for January from the signal-service stations show tha there has been in general a deficiency on the Pacific coast; but east of the Rocky Mountains an excess of rain and snow. This latter excess is most decided in Missouri, Nev Jersey, and Connecticut. A small region of deficiency also appears to extend ove Kentucky, Tennessee, Mississippi, and Alabama

TEMPERATURE.

The mean temperatures for January, as given by the signal-service reports, show tha over the country east of the Rocky Mountains the weather has been generally colde than usual. This difference is greatest in the northwestern section, being in Michiga and Northern Ohio about 6° below the mean temperature for the month, and from Wi consin and Minnesota to Kansas ranging from 7° to 12° lower than usual. In the lowe Mississippi Valley, and also Northwestern New York, the average temperatures hav been from 5° to 6° lower than might have been anticipated, while this difference i New England and throughout the Middle States generally has been from 2° to 4°. I the South Atlantic States about the mean temperatures have prevailed, except in Northern Florida, where they are shown to be somewhat lower, as also in the Gulf States.

MONTHLY WEATHER-REVIEW, FEBRUARY, 1873.

STORMS.

During this month ten different storms have crossed portions of the country east c the Rocky Mountains. The paths of their centers have, approximately, been trace upon the War Department weather-maps, Signal Service, United States Army.

That of February 3d and 4th passed over Nebraska, Iowa, Wisconsin, and Michiga into Canada, accompanied by rain, at places heavy, from Texas to Iowa and eastwar to the middle Atlantic coast, but by generally light snow or rain thence northwar over New England and the lakes, and by brisk and high winds over the lake regio westerly winds being most severe; thunder-storm reported from Knoxville, 4th.

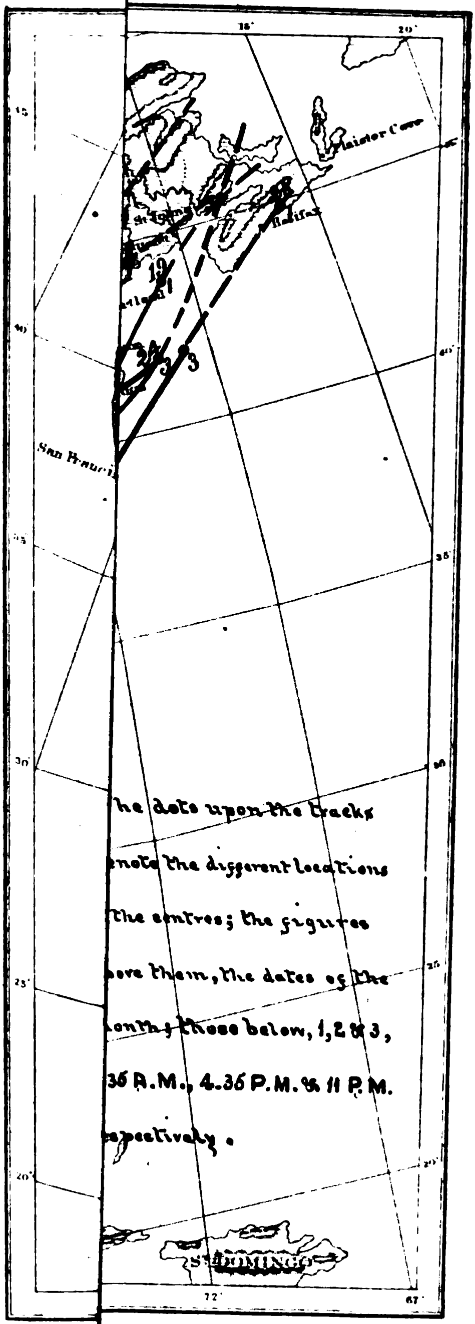
February 5, 6, 7, and 8.—Over Gulf and South Atlantic States and thence northeastwar off the middle and east Atlantic coasts and over Nova Scotia, accompanied by heav rain to Massachusetts, and by fresh and brisk winds over Gulf coast, and brisk an high over Atlantic coast, easterly to northerly winds most severe.

February 6 and 7.—Eastward over Northern Minnesota and Lake Superior into Canad accompanied by areas of very light snow and brisk and high winds over the lake regio southwesterly to northwesterly being most severe.

February 9, 10, and 11.—Eastward from Dakota over Minnesota, Wisconsin, and Michigan into Canada, accompanied by generally light rain or snow from Missouri, Tennessee, and Virginia northward and northeastward, and by brisk and high wind southeasterly to southwesterly being most severe.

February 11 and 12.—Northeastward over Southern States and beyond middle Atlanti coast, accompanied by heavy rain from Kentucky to Southern New Jersey and southward to Gulf, but snow from Ohio to lower lakes and Connecticut, and by brisk t high southerly to westerly winds over western Gulf coast, brisk and high southwesterly over South Atlantic States, and brisk and high easterly to northerly from Virgini to Massachusetts; thunder-storm reported from Knoxville, 12th; storm very sever from Cape Cod southward.

February 15, 16, and 17.—Northeastward from Texas over the Ohio Valley; thence eastward over and beyond middle Atlantic coast, accompanied by rain, generally heavy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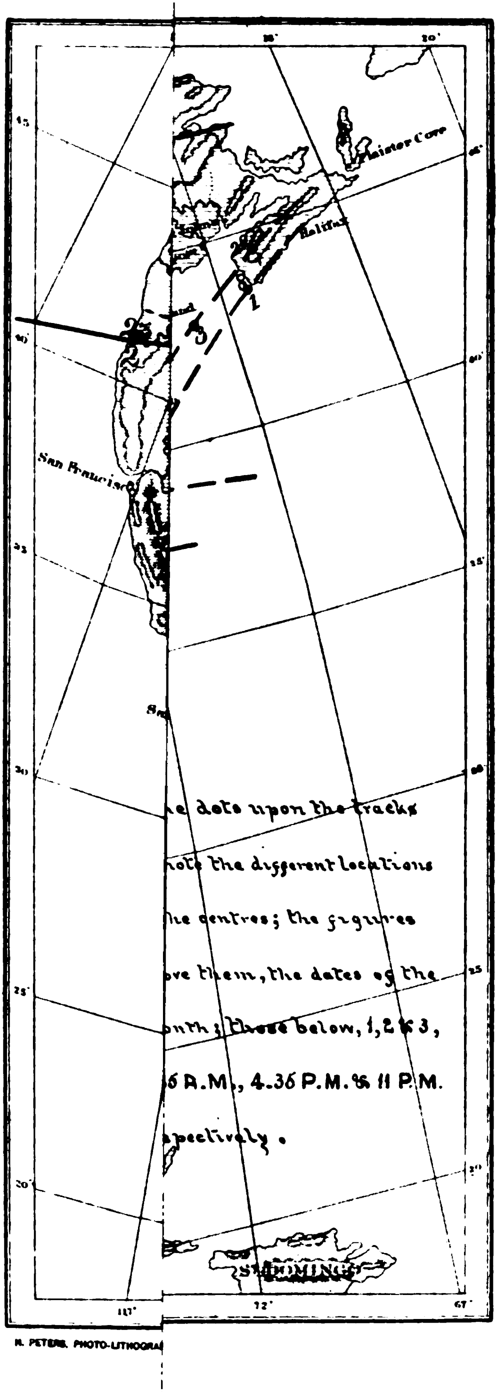

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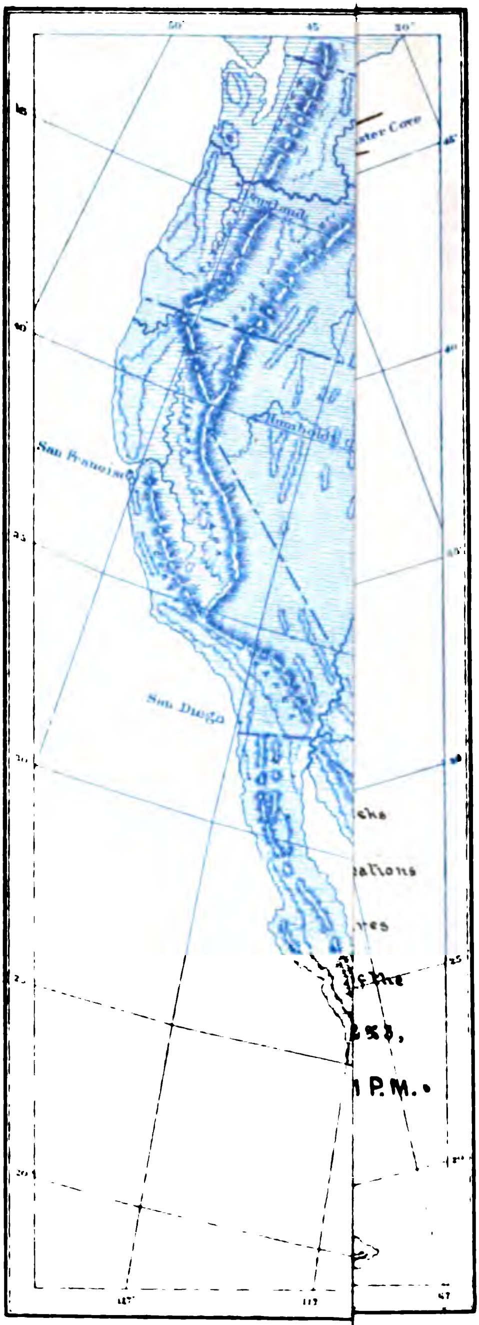

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a to Connecticut and southward to Gulf, but areas of light rain and snow orthward to Maine and the lakes, and by brisk and high winds over western Atlantic coasts; severe thunder-storm reported from Memphis on 15th.

y 17 and 18.—Northeastward from Dakota over Minnesota and Lake Supe-Canada, accompanied by light rain and snow and by brisk aud high winds, by low temperature.

y 20 and 21.—One over the Southern States, and thence northeast along the h fresh and brisk southerly winds over west Gulf, veering to high northerly; therly over south Atlantic coast, and brisk and high northeasterly to north-over middle and east Atlantic coasts; other northeastward over Missouri; nd Michigan into Canada with brisk and high winds; the two accompanied rain over the country east of the Rocky Mountains, except snow from Iowa esota eastward over the Lake region and Northern New England.

y 26 and 27.—From Nebraska and Missouri northeastward over Michigan into ccompanied by brisk and high winds; at the same time a diminished pressure as eastward over Gulf and South Atlantic States, and thence northeast off d east Atlantic coasts with brisk and high winds; the two accompanied by Missouri to Northern Louisiana and eastward to Virginia and south Atlantic by snow thence northward over Northwest, lakes, and Southern New England. hree cautionary-signals were displayed at the signal-service stations on the oast and two on the Gulf.

RAIN-FALL.

ared with the means of a number of years for the month, the rain-fall returns ignal-service stations show a deficiency over the lake region, Northwest, s, Southern Georgia and South Carolina, New York, and Northern New En-an excess from the northern portions of Alabama, Georgia, and South Caro-nessee, Southern Indiana and Ohio, Pennsylvania and Southern New Jersey, t marked over Tennessee, also an excess over Rhode Island and Eastern etts and Connecticut.

TEMPERATURE.

e mean temperature for the month, taken from the signal-service reports red with that for a number of years at the same stations, or close by, it is at the former has been somewhat higher over the Gulf States, eastern por-ntucky and Tennessee, and southern portions of Ohio and Indiana, by from t otherwise east of the Rocky Mountains lower by from 1° to 8°, being over New York, Michigan, Wisconsin, and Minnesota.

MONTHLY WEATHER-REVIEW, MARCH, 1873.

STORMS.

is month eleven storms have crossed portions of the country east of the tains. The paths of their centers have approximately been traced upon partment weather-maps, Signal Service, United States Army.

r of that of March 1, 2, 3, and 4, passed from Texas over the Gulf States as l pressure on the 1st and 2d, accompanied by heavy rains and brisk winds, sed to high northerly along the Texas coast on the 1st and 2d; thence rd along the Atlantic coast, followed by brisk and high northerly to west-ver South Atlantic and Middle States, but brisk and high northeasterly, orthwesterly over east Atlantic coast, and accompanied by heavy rain ove tlantic States, but by generally light snow over the Middle and Eastern vas followed on the 2d and 3d by very cold weatherand brisk and high north-ds from the northwest and upper lakes to the Gulf, which, on the 3d and l eastward over the Atlantic coast; on the 3d, thermometer readings from ees below zero were reported from Minnesota.

and 8.—Nearly due east over Dakota, Minnesota, and Upper Michigan into eded by rain and brisk to high easterly and southerly winds from ippi Valley and Tennessee to the lakes and northern portions of the Mid-ern States; followed by occasional snow over the lakes and Minnesota, and high westerly winds from the Missouri Valley eastward over the Mid-rn States, increasing to gales over the lakes.

and 10.—From Southern Dakota, a little south of east over Iowa, Illinois, as a diminished pressure, accompanied by fresh and brisk winds only; st over Ohio, Pennsylvania, and beyond Cape Cod increasing in severity, d high winds and generally light rain or snow from Tennessee and North hio, and thence to Maine.

March 10 and 11.—From Dakota over Minnesota and Lake Superior into Canada an continuing north of the Saint Lawrence Valley; preceded by brisk and high easterly t southerly winds, and followed by brisk and high westerly to northerly winds; accom panied by areas of light rain or snow from Missouri to Minnesota and Lakes Superio and Huron, but thence eastward over the Middle and Eastern States becoming genera and at places heavy.

March 14, 15, and 16.—Eastward from Nebraska and Southern Dakota over the lak region and apparently the eastern British provinces; accompanied by rain from Nortl ern Louisiana to New England and north of this line to the lakes and northwest; pre ceded by brisk to high easterly and southerly winds, and followed by brisk and hig northerly to westerly, increasing at places to gales.

March 17 and 18.—Eastward over Wisconsin, the lakes, New York, and New England accompanied by brisk winds and rain, generally light, from Tennessee and Virgini northwest, north, and northeastward.

March 18, 19, 20, and 21.—Eastward over Dakota to lower Michigan apparently as diminished pressure, but then developing into two; one passing over Virginia, an thence northeastward along the coast; the other north of the lower lakes and over th northern portion of New England; accompanied by rain and snow over the entir country east of the Rocky Mountains, also by brisk and high winds, the easterly havin probably been the most severe, increasing to gales.

March 22 and 23.—From Dakota over the upper lakes into Canada, and thence ove Northern Maine, accompanied by occasionally light snow and brisk winds which a places increased to northeast gales.

March 23, 24, 25, 56, and 27.—Northeastward over the Ohio Valley, and developin into two; one over the lower lakes, down the Saint Lawrence Valley, the other over th middle and east Atlantic coasts and New Brunswick; accompanied by heavy rain ove the entire country east of the Rocky Mountains, except that from Northern New En land westward over the lakes to the northwest it was snow, and by brisk and hig winds, which at places increased to gales, the north and west having been most sever except at Quebec, where a very severe northeast gale prevailed on the afternoon of th 26th; this storm was followed by a severe "norther" in Texas on the 25th.

March 28, 29, and 30.—From Southern Dakota eastward over the lakes, New Yor and New England; accompanied by areas of light rain or snow over the northwest an upper lakes, but by rain, generally very heavy, from the Lower Mississippi and Ohi Valleys and lower lakes to the Atlantic coast, also by brisk and high winds; on its pa sage over the Middle and Eastern States it increased in severity, and the winds t southerly gales on the coast, shifting later to northwest; it has undoubtedly been th most severe storm of the month, and the barometric depression most remarkable, th lowest reading having been 28.80 inches at Burlington, Vt., 11 p. m. on the 29th.

March 30 and 31.—Over the northwest lakes and New England; accompanied b generally very light rain or snow from the northwest eastward over the lake regio Ohio Valley, and Middle and New England States, and by brisk winds, increasing o casionally to high.

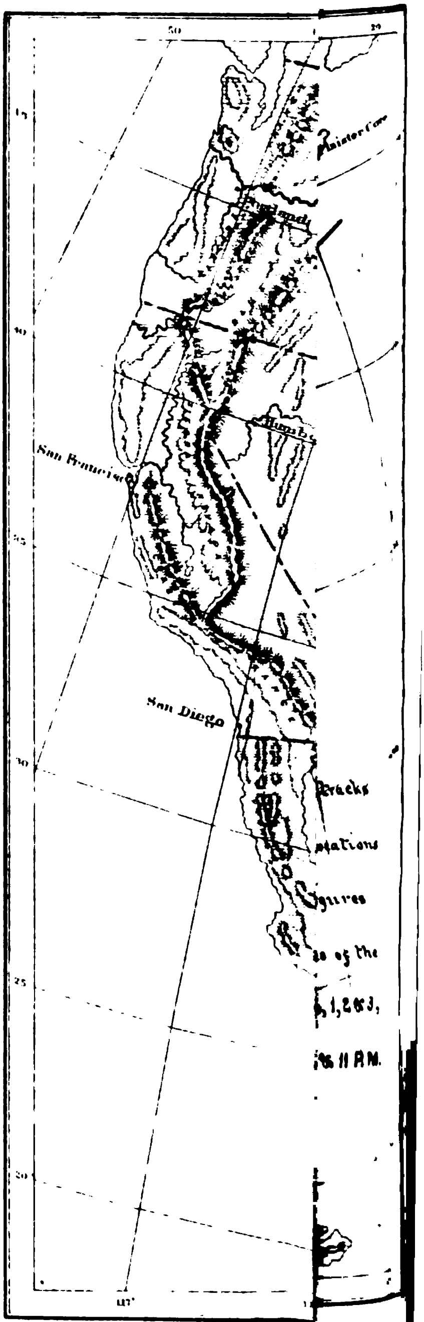
During the month ninety-five cautionary-signals were displayed at the signal-servic stations on the Atlantic coast and five on the Gulf.

RAIN-FALL.

As compared with the means of a number of years for the month, the rain-fall return from the signal-service stations show a general deficiency at the stations east of th Rocky Mountains and at San Francisco, from 0.05 to 4.00 inches, except over the south ern portion of New England, northern and western portions of the Middle State Southeastern Louisiana, Jacksonville, Florida, and Eastern Tennessee and Kansa where the excess varies from 0.10 to 4.86 inches.

TEMPERATURE.

The mean temperature for the month, as taken from the signal-service reports, at a stations east of the Rocky Mountains is higher, from 1° to 10°, than the same for last yea except for Jacksonville and Key West, Fla., which is slightly lower, at latter 1° 5 By comparing same of this year with that for a number of years at the same station or at others close by, it is observed that the former is from 1° to 5° lower over th Southern, Middle, and New England States, Ohio and southern portions of Michiga Illinois and Missouri, but northwest of this region to Minnesota, Iowa, and Nebrask it varies from 4° above to 5° below. During the month the weather has therefore bee generally colder than usual, but warmer than March of last year, except in Utah, whe it has been somewhat colder this than last, and at San Francisco, where there has a parently not been any change.



N. PETERS, PHOTO LITHOGRAPHER, WASHINGTON D.C.

MONTHLY WEATHER-REVIEW, APRIL, 1873.

STORMS.

this month seven storms have been felt over a portion, or nearly the whole,
untry east of the Rocky Mountains. The paths of their centers have, approxi-
een traced upon the War Department weather-maps, Signal Service, United
my.

ter of that of April 1 and 2 passed over Missouri, Illinois, and Michigan into
ending out a minor disturbance over the middle Atlantic coast, accompanied
o high winds and heavy rain in all the States east of the Rocky Mountains,
at it was partly snow and sleet over northern New England, the lake region,
orthwest; it was felt as a very severe storm from northern Texas to the
northwest.

4, 5, 6, and 7.—Over Nebraska, Iowa, Missouri, Illinois, and lower Michigan
la, accompanied by brisk and occasionally high winds, and sending out several
turbances to the eastward; also by rain-areas, generally light, from the Mis-
Ohio Valleys and east and middle Atlantic coasts to the lakes and Saint
Valley, except over the lake region, where it was partly snow.

8, 9, and 10.—Over Texas, Arkansas, Illinois, and Lake Michigan into Can-
ng out a branch over the Ohio Valley, middle Atlantic coast and to the south
ngland, both accompanied by brisk and high winds; also by rain, generally
m Texas to Minnesota and eastward to the Atlantic coast, except that it was
w over the upper lakes and northwest; it was followed by a severe "norther"
n the 8th.

, 11, 12, and 13.—Over the northwest, and developed into two; one passing
ower lakes into Canada, accompanied by brisk and occasionally high winds
n or snow from Missouri and Kentucky to the lakes; the other over the Ohio
middle Atlantic coast, and thence slowly northeastward, preceded by severe
rly gales, rain, sleet, and snow from Chesapeake Bay to Nova Scotia, New
, and the lower Saint Lawrence Valley.

, 14, 15, 16, 17, 18, and 19.—Eastward over Wyoming, Nebraska, and Kan-
a and Missouri; then diminishing in intensity and breaking up into, and
t to the eastward over the lower lakes, several minor disturbances, and
the middle Atlantic coast, moving thence very slowly on the 17th, 18th, and
the New England coast to Nova Scotia and New Brunswick as quite a severe
vas accompanied by rain, generally heavy, over the entire country east of
Mountains, except that it was partly snow over northern New England, the
and the northwest; on the 12th, 13th, 14th, and 15th it was felt as a very se-
of rain, sleet, and snow in Wyoming, Dakota, Nebraska, and Minnesota, on
on and night of the 14th and morning of the 15th as a very severe "norther"
east of the Mississippi numerous minor disturbances were left, producing
r snow.

22, and 23.—Southeastward over Dakota, the Lower Missouri and Lower
s, and beyond the Carolinas; attended by fresh to very brisk winds, and by
nerally light rain or snow from Missouri, Tennessee, and North Carolina to
the lakes, and Massachusetts, and followed by a severe "norther" in Indian
the 22d, and in Texas on the 23d and 24th.

28, and 29.—Over Indian Territory to Kentucky, then apparently develop-
d disappearing to the eastward as several minor disturbances; accom-
esh and brisk winds and rain from the interior of the Gulf States to the
lassachusetts, which was generally heavy over the interior and along the
st.

RAIN-FALL.

ns for the month from the signal-service stations show that there has been
rain and snow over southern New England, the lower lake region, from
Southern Michigan to Kansas, Iowa, and Southern Minnesota, and over
bama and Southeastern Georgia, varying from 0.65 inch to 3.06 inches, being
llinois and Missouri. Elsewhere east of the Rocky Mountains there has
iency of from 0.07 inch to 3.87 inches, being most marked in the western

TEMPERATURE.

e month the weather has been generally colder than usual east of the
tains, and colder than April of last year at the Rocky Mountain stations and
The mean temperature for the month, taken from the signal-service reports,
d with that for a number of years at the same stations, or others close by,
n Kansas and Missouri to Minnesota, 3° to 8°; in the Middle States and
0.5° to 5°.7; in New England and from Kentucky to the Gulf, 0.5° to 3°;
South Atlantic States it varies a little above and below.

compared with that of last year is lower at the Rocky Mountain stations,
nce eastward, 0.5° to 8°; the difference being greatest over the Northwest
lle States.

MONTHLY WEATHER-REVIEW, MAY, 1873.

STORMS.

During this month ten storms have traversed the country east of the Rocky Mountains. The accompanying map shows the paths of their centers:

I. *May* 1, 2, and 3.—Apparently originating on the last day of April in the Rocky Mountains, the center of this storm progressed eastward over Kansas, Missouri, Northern Indiana, Southern Michigan, and Lake Erie, moving thence southeastward over Pennsylvania and Maryland to the Atlantic, sending out a branch on the 2d over Ohio, Virginia, Chesapeake Bay, and thence off the coast. Its passage was attended by heavy rains and brisk and high winds from the Mississippi to the Atlantic, sleet and snow falling in New England.

II. *May* 4 to 8.—Appearing first in Southern Texas, this storm moved slowly northeastward over Arkansas, Missouri, Illinois, Southern Michigan, and Lake Huron. The highest winds during its passage were experienced on the coast of Texas, the lower lakes, and the middle Atlantic coast.

III. *May* 8 and 9.—Developed among the mountains of North Carolina and moved northeastward along the middle Atlantic coast, accompanied by heavy rains and high winds.

IV. *May* 8, 9, and 10.—Appeared first in Kansas and moved eastward over Missouri and thence rapidly northeastward over Illinois, Indiana, Michigan, and southern Lake Huron into Canada. Heavy rains fell in Northern Illinois and Eastern Iowa, and a belt of lighter rains and brisk winds, from four hundred miles to eight hundred miles in width, attended its progress.

V. *May* 10, 11, and 12,—Like III, this storm seemed to develop among the mountains of North Carolina, passing northeastward over Virginia, eastward over Chesapeake Bay, and again northeastward along the coast to New Brunswick.

VI. *May* 12 and 13.—Traveled from Minnesota very rapidly eastward over the lakes, Saint Lawrence Valley and northern New England to Nova Scotia, causing light rains and high winds throughout its course.

VII. *May* 13, 14, and 15.—From the plains of Kansas and Indian Territory this storm-center moved eastward over Southern Missouri, southeastward into Alabama, and then again eastward off the coast, rapidly diminishing in intensity after crossing the Mississippi. Considerable rain fell in all the Southern States, except Texas, but no dangerous winds were reported.

VIII. *May* 18, 19, and 20.—Developing in the southwestern plains this depression traveled rather slowly northeastward from the Indian Territory over Lakes Michigan and Huron into Canada, attended by rain-belts and fresh to brisk winds throughout the lake region and western and northwestern sections of the country.

IX. *May* 21 to 24.—From Montana this disturbance moved slowly eastward over Dakota, crossing, with somewhat increased velocity, Minnesota, the upper lakes, the Saint Lawrence Valley, Maine, and Nova Scotia, causing, by its slow progress, several days of cloudy and rainy weather over the entire northern portion of the country. It was during its passage over the Northwest that the terrible and destructive tornado swept through Iowa.

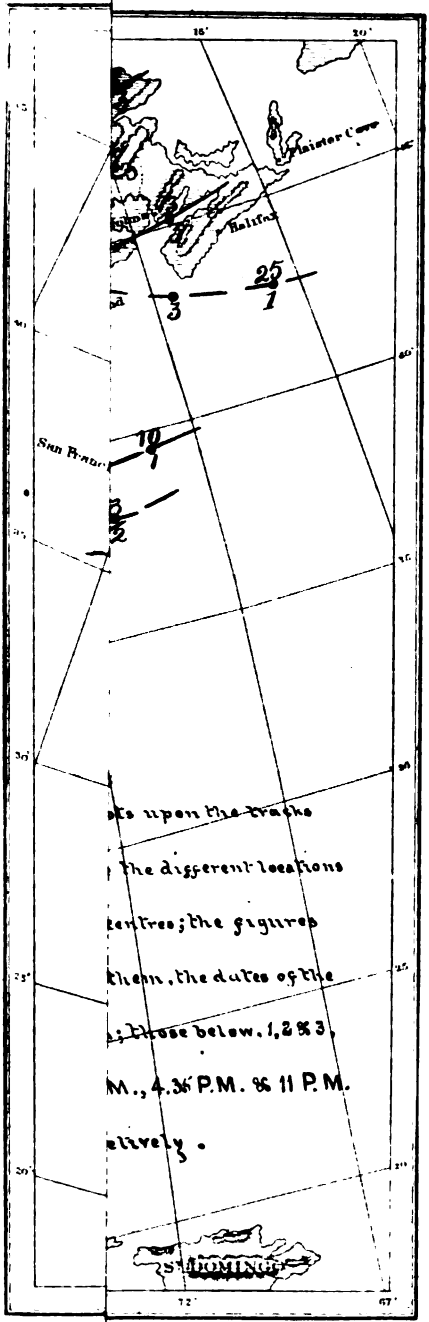
X. Two depressions, one slowly descending from the Upper Missouri Valley, the other moving northward over Kansas and Nebraska, seemed to unite in Southern Dakota to form this storm-center. From Dakota it moved southeastward into Iowa, northeastward to Lake Superior, and thence nearly due east over the Saint Lawrence Valley, Maine, and New Brunswick. Its rain-belts reached nearly the whole country east of the Mississippi, and brisk winds, increasing occasionally to high, were experienced throughout the northern sections.

TEMPERATURE.

The temperatures for the last month were generally lower than for May, 1872, the chief exceptions being Key West, Oswego, and Grand Haven. As compared with the mean May temperatures of a series of years, the thermometric figures for May, 1873 show excess of warmth over northern Lake Michigan, Northern Michigan, Lake Huron, Southern Ohio, Kentucky, Tennessee, and Eastern Massachusetts, but a deficiency of temperature in Kansas, Missouri, Iowa, Minnesota, Wisconsin, Indiana, Illinois, and the Gulf States, Florida, and Southeastern Georgia, and generally throughout the Atlantic States and the lower lake region. The regions of minimum rain-fall and thermometric maxima nearly correspond.

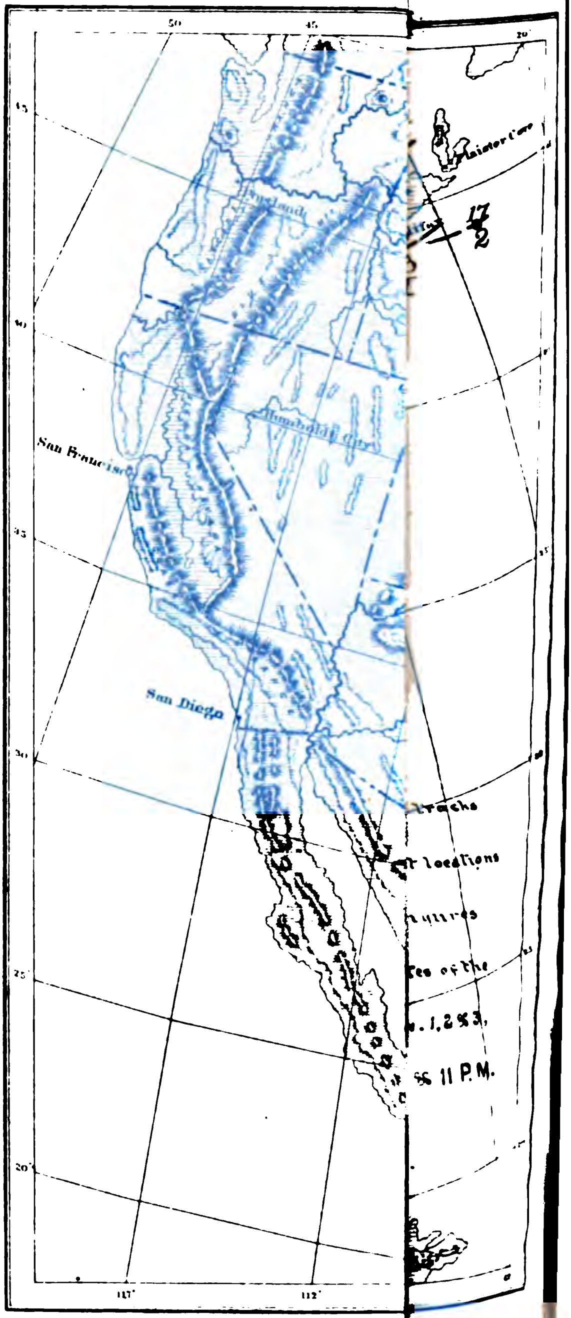
RAIN-FALL.

As compared with the mean May rain-falls, the rain-fall returns of last May show deficiencies in the northern and western parts of Lake Superior, Lake Michigan, and in the entire country stretching from the Saint Lawrence Valley to Maine, and thence over the lower lakes, Western New York, and Western Pennsylvania, West Virginia


18°
20°
Plaister Cove
Halifax
25
1
3
40°
San Franc
10
1
3
2
35°
30°
ts upon the tracks
the different locations
centres; the figures
them, the dates of the
; those below, 1, 2 & 3,
M., 4.36 P.M. & 11 P.M.
ctively.
25°
20°
St. DOMINGO
72°
67°

N. PETERS, PHO

18



N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D.C.

Central Indiana, and Southeastern Illinois. Excess of rain occurred in Iowa, Mis- , Eastern Kansas, East Tennessee, and also along the Atlantic sea-board, except Portland, Me., and Savannah, Ga., and a very great excess, from 2.00 to 14.58 s, over the Gulf States.

RIVERS.

e river reports for the month show a slight decline in the Red and Missouri Rivers the beginning to the middle of the month, after which a decided rise occurs until nd. The Arkansas rose slowly at Little Rock until the 23d, after which it subsided y. The Mississippi has alternately risen and fallen; at Saint Paul the water was lower on the 19th than on the 31st, at which dates, respectively, it was lowest ighest; at Saint Louis the lowest and highest extremes occurred, respectively, ie 3d and 31st, the difference being 6 feet and 3 inches. At Cairo the river lowest on the 28th and highest on the 16th, the extremes being about 13 feet. emphis the difference between the highest and lowest water for the month has about 9 feet, having been highest on the 22d and lowest on the 28th. A very rise occurred on the Cumberland at Nashville from the 1st to the 4th, after which ater gradually subsided until the 21st, rising again until the 27th, and then again g until the 31st.

Ohio was affected by a great swell which traveled from Pittsburgh on the 4th ansville on the 14th; since then it has fallen almost uninterruptedly. The differ- etween the highest and lowest water has been 15 feet at Pittsburgh, 19 feet at tta, 23 at Cincinnati, 7½ at Louisville, and 16½ at Evansville.

indications are that the Missouri and its tributaries will continue to rise.

MONTHLY WEATHER-REVIEW, JUNE, 1873.

STORMS.

ing this month ten disturbances have crossed portions of the country east of the Mountains. The accompanying map shows, approximately, the paths of their s. The figures above them are the dates of the month; those below, 1, 2, and 3, te respectively the time of the morning, afternoon, and midnight observations; ts upon them show the location of the centers at each observation.

center of that of June 1 and 2 moved over Eastern Florida into Southern ia and disappeared, producing heavy rains and brisk winds.

3 and 4.—From Dakota over Iowa, Lake Michigan, lower lakes, New York, and England; accompanied by fresh and brisk winds over the Northwest, lakes, and ic States, and by rain, at places heavy, east of the Rocky Mountains, except on lf coast.

7, 8, 9, 10, and 11.—From Dakota over Minnesota, the lake region, and northern England; with rain, generally heavy, fresh and brisk winds, and occasionally thunder-storms, over the northern portion of the country.

12, 13, 14, and 15.—One southeastward over Minnesota to Lake Erie, and thence ast into Canada, causing thunder-storms, with rain-areas, generally light, and nd occasionally brisk winds from the Ohio Valley to the lakes; a second, appa- developing in the Southern States, thence eastward to the coast and northeast- ver probably Nova Scotia, with fresh and brisk winds and rain-areas on the coast.

14, 15, 16, and 17.—Over Dakota, Lake Superior, and thence probably over producing areas of light rain and fresh and brisk winds over the northern portion Middle States and the lake region.

18, 19, and 20.—Over Northern Minnesota, Lake Superior, and thence over Maine va Scotia, attended by occasional rain-areas and brisk and high winds over the est, lake region, and New England.

21, 22, 23, and 24.—From Dakota over Southern Minnesota to Iowa, then break- into and sending out to the eastward several minor disturbances, producing thunder-storms of short duration from Missouri and the Ohio Valley northward.

25, 26, 27, and 28.—Eastward over Northern Dakota, Minnesota, Lake Superior, rthern New England, sending a branch over Iowa, with severe thunder-storms nnessee to the Northwest, lakes, and New England.

28, 29, and 30.—Over Minnesota and the upper lakes into Canada, accompanied re thunder-storms north and west of the Ohio Valley, brisk winds over the est, lake region, and Atlantic States, and rain, often quite heavy, from the Lower ppi, Northwest and lakes to the Atlantic coast.

autionary-signal was displayed at Duluth on the 17th.

TEMPERATURE.

ean temperature for June, 1873, is higher than the mean for the month, except vicinity of Lake Superior, where it is lower by 0°.7 to 1°.8; in the South Atlantic t varies from 1°.6 below to 1°.0 above, and from New Jersey and Eastern Penn- to Maine, 1°.2 below to 1°.1 above. The excess is greatest in Northeastern ., 4°.5; Northern New York, 1°.1 to 4°.7; Kentucky, Ohio, Indiana, and Southern

Michigan, 1°.7 to 6°.5; Southern Alabama, 4°.9; Illinois, Southern Wisconsin, and Eas ern Iowa and Missouri, °.5 to 2°.1; Eastern Kansas. 4°.2; Southern and Western Minn sota, 4°.8 to 6°.7; Fort Sully, Dakota, 8°.0, (?) and Cheyenne, 4°.4.

The mean for June, 1873, is lower than that for June, 1872, at San Francisco, 1°.1; the Gulf States, 0°.4 to 1°.6; in the South Atlantic States, 0°.3 to 2°.0; in the vicinit of Lake Superior, 0°.4 to 1°.6. It varies in the Middle, Atlantic, and New Englan States from 1°.1 above to 3°.9 below. The former is the higher in Iowa and Souther and Western Minnesota, 4°.5 to 5°.5; in the Ohio Valley, 1°.0 to 4°.7; over the low lake region, 1°.1 to 2°.7.

Mean temperature.

Signal-service stations.	1871.			1872.			1873.		
	April.	May.	June.	April.	May.	June.	April.	May.	Jun
	°	°	°	°	°	°	°	°	°
Washington	57.6	64.0	73.2	56.2	67.8	76.0	53.3	63.6	76
New York	54.2	58.6	69.0	49.7	61.9	72.8	46.3	57.6	68
Boston	46.7	57.4	66.2	46.3	57.2	67.6	44.6	56.8	67.
Chicago	51.2	56.7	66.8	47.9	56.1	69.5	42.3	53.9	70.
Saint Louis	60.3	69.1	79.0	57.5	67.4	76.9	51.2	65.1	77.
New Orleans	70.8	76.0	82.5	70.4	75.8	80.5	66.9	73.7	80.

RAIN-FALL.

The returns for the month from the signal-service stations show that there has bee an excess of rain over the mean from Florida to Western Tennessee, and westward t Arkansas and Eastern Texas, varying from 6.50 inches to 0.86 inch, from Eastern Sout Carolina to Southern Virginia 1.29 inches to 0.60 inch, from Central Indiana to Sout eastern Missouri 1.42 inches to 0.68 inch, over Northeastern Ohio 1.23 inches, and fro Eastern Nebraska northeastward to Eastern Minnesota and Northern Wisconsin an over Northern Michigan 4.34 inches to 0.45 inch.

There has been a deficiency in New England varying from 1.79 to 4.00 inches, i the Middle States, except Southern Virginia, 0.44 to 3.26 inches, from northern portion of Georgia and South Carolina to the Ohio Valley 0.35 to 2.03 inches, from Northeaster Kansas to Southern Wisconsin and Northern Illinois 1.67 to 3.90 inches, over Northwes ern Ohio and Southeastern Michigan 0.29 to 1.23 inches, and over Western Minnesot 0.98 inch.

RIVERS.

The Red River rose steadily at Shreveport during the first week, after which remained nearly stationary until the 28th, when it began to fall slowly.

The Arkansas fell and rose alternately during the first twenty days, then fell steadil having been eight and a half feet lower on the 30th than on the 1st.

The Missouri at Fort Benton rose steadily until the 19th. Throughout the low portion of the river an almost continuous rise occurred, although a slight fall wa observed between Kansas City and Brunswick after the 26th.

The Mississippi fell slowly at Saint Paul and between Cairo and New Orleans, (excep ing some slight oscillations,) the difference between highest and lowest water for th month being at St. Paul nearly five feet, between Cairo and Vicksburgh nearly eigh feet, and at New Orleans eleven inches; between Le Claire and Warsaw a gradual ri occurred from the 4th until the middle of the month, after which a steady fall wa observed; at Saint Louis the water rose slightly between the 3d and 11th, falling slowl after that date.

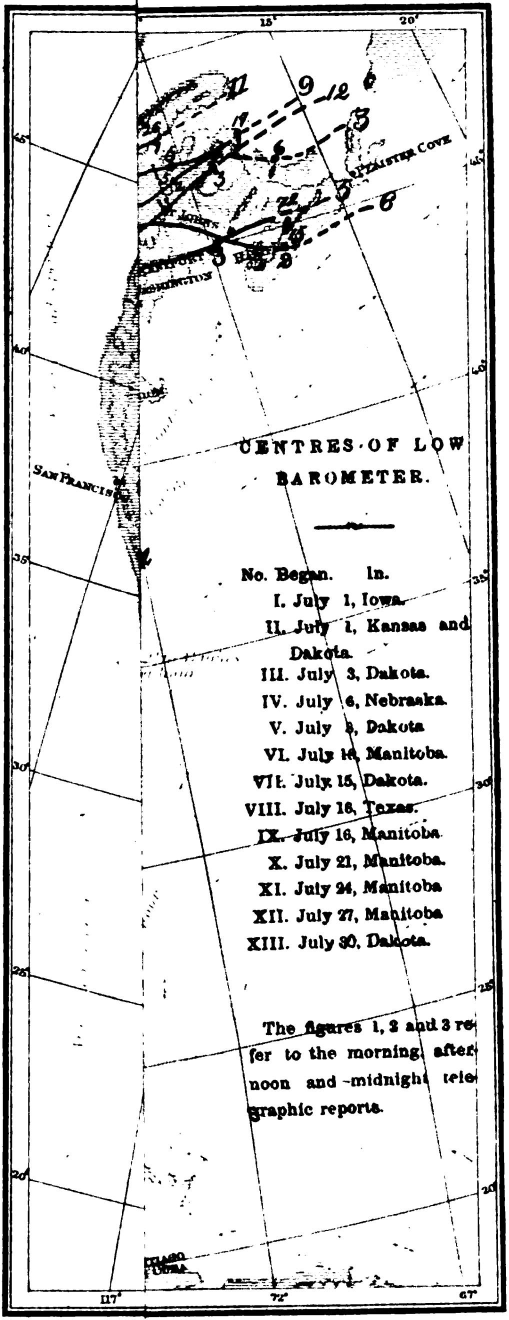
The Cumberland at Nashville fell from the 1st to the 9th, then rose until the 19t fell again until the 27th, rose until the 29th, but on the 30th it began again to fal the difference between highest water (19th) and lowest water (9th) being six feet.

The Ohio, at Marietta and above, as well as its tributaries, has changed compar tively little; from Cincinnati to Evansville it has fallen almost continuously—th difference between highest and lowest water being nearly nine feet at Cincinnati an Evansville and three at Louisville; at Paducah the water fell from the 1st to the 11t rose until the 21st, falling again from that date until the 30th.

MONTHLY WEATHER-REVIEW, JULY, 1873.

STORMS.

During the month of July, 1873, thirteen areas of low barometer have been recorde on the daily weather-maps of the Signal Office; the tracks pursued by these will b found on the accompanying map No. 1; they have in general passed centrally over th



CENTRES OF LOW BAROMETER.

No.	Began.	In.
I.	July 1,	Iowa.
II.	July 1,	Kansas and Dakota.
III.	July 3,	Dakota.
IV.	July 6,	Nebraska.
V.	July 8,	Dakota
VI.	July 10,	Manitoba.
VII.	July 15,	Dakota.
VIII.	July 16,	Texas.
IX.	July 16,	Manitoba.
X.	July 21,	Manitoba.
XI.	July 24,	Manitoba
XII.	July 27,	Manitoba
XIII.	July 30,	Dakota.

The figures 1, 2 and 3 refer to the morning, afternoon and midnight telegraphic reports.

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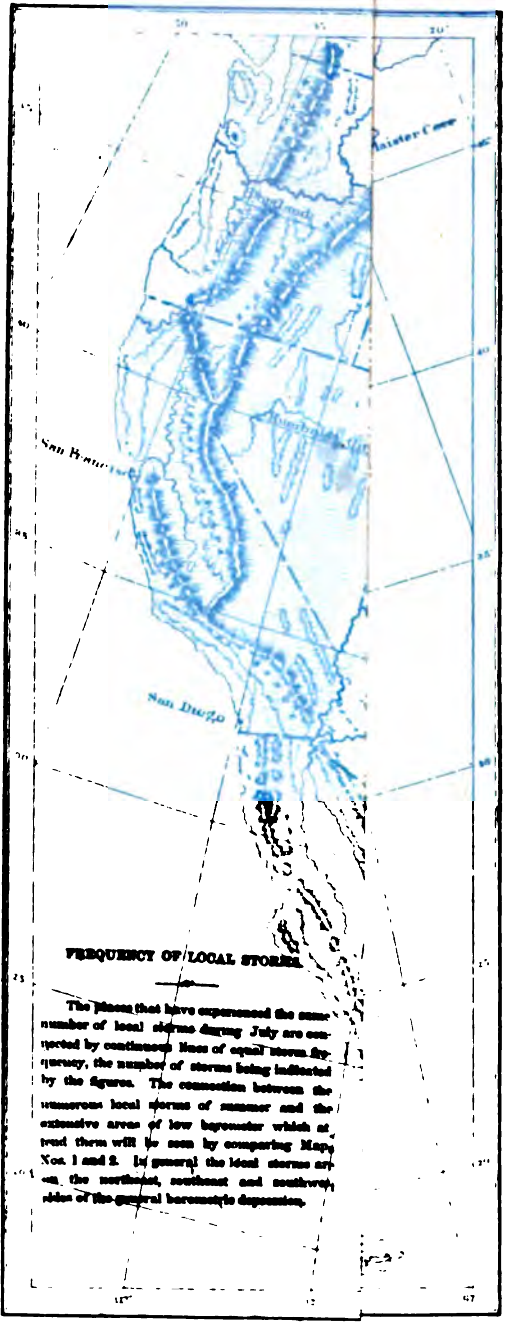

FREQUENCY OF LOCAL STORMS.

The places that have experienced the same number of local storms during July are connected by continuous lines of equal storm frequency, the number of storms being indicated by the figures. The connection between the numerous local storms of summer and the extensive areas of low barometer which attend them will be seen by comparing Maps Nos. 1 and 2. In general the local storms are on the northeast, southeast and southwest sides of the general barometric depression.

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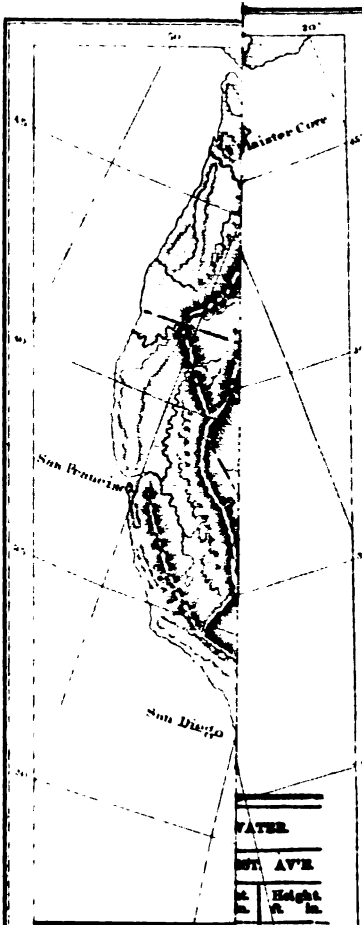
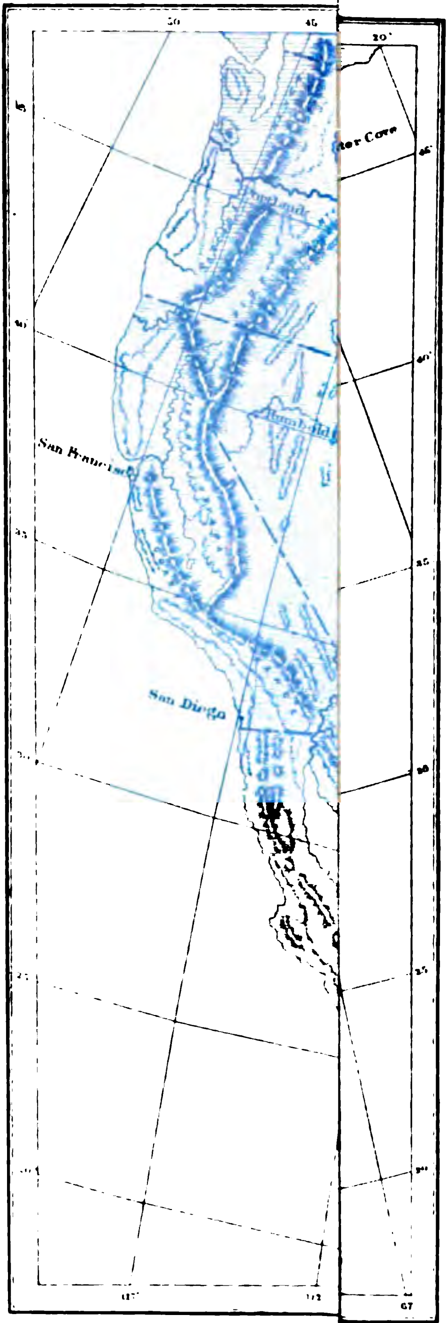


	WATER.	
	AV'E	
in.	Height ft.	in.
	26	6
9	4	9
2	11	10
8	11	9
1	9	4
6	6	7
8	7	7
4	6	5
7	20	11
0	24	6
1	19	[illegible]
0	20	[illegible]
2	4	[illegible]
4	5	6
9	5	6
6	12	10
2	6	1

TEMPERATURE OF RIVERS

STATION.	Depth of Water. Feet.
Augusta	6
Boston	26
Baltimore	13
Charleston	16
Mobile	—
Montgomery	10
Norfolk	24
New London	—
New Orleans	10
Oswego	22
Philadelphia	23
Savannah	—
Wilmington	17

N. PETERS, PHOTO-LITHOGRAPHER, WASH



A. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D.C.

me northern limit of the United States. This feature has indeed been this year r more noticeable than in former years, as is seen from the following statement:

1871. The mean latitude of the tracks of 15 centers of low barometer was 45°.
1872. The mean latitude of the tracks of 14 centers of low barometer was 44°.
1873. The mean latitude of the tracks of 13 centers of low barometer was 47°.

in former years during this month, so in the present year, with scarcely an excep- the areas of low pressure first became apparent in or beyond Dakota and Mani- On most occasions the appearance of a low barometer in the Northwest has preceded by slight barometric depressions on the coasts of Oregon and California, has been impossible to decide whether the disturbances have passed from the ic Ocean eastward or have originated in the Rocky Mountains of British America. e numerous local storms that are experienced during the summer months have a in relation to the large areas of high and low barometer, to the topography of the ry, the position of the ocean and other bodies of water, &c., &c., all of which may tter understood from map No. 2, on which are drawn with some approach to cor- ess the lines of equal storm frequency for the month of July. The local storms h are almost invariably attended with lightning, &c.) have been most numerous orida, on the west and southwest side of the area of high barometer that prevails g July on the Atlantic, between the latitudes of 12° and 30° north. The region xt greatest frequency is in Ohio and Western Pennsylvania, where the south and west winds attending the areas of low pressure rise up over the high country of States. The storm frequency diminishes as we proceed from the Gulf coast ward over the low, flat country and northwestward toward the high arid plains; e other hand it increases as we proceed from the middle and east Atlantic coasts vard up a rapid slope to the summit of the Appalachian range. The local storms ast frequent on the dry plains west of the valley of the Mississippi River, and are indications of a region of diminished frequency in the northern part of the nce of Ontario, though this may possibly be due to the scarcity of our stations in egion.

WINDS.

winds of special severity have been reported during this month, except the tor- of July 3, at Indianapolis. The winds have reached the limit of *high* (a velocity rty miles an hour) only twice in the Middle Atlantic States and thrice in Dakota orthern Minnesota. The prevailing winds (by which is merely meant the wind as been recorded the greatest number of times) are shown by arrows on map No. n which we also perceive something of the connection between the winds and obars. In general it may be stated, that south and southeast winds have pre- l in the Gulf States, Iowa, and Minnesota, but elsewhere over the country east of ocky Mountains the prevailing winds have been from the south, southwest, and

RAIN-FALL.

total amount of rain during the month appears to have been in excess in Indi- llinois, and Michigan, and on the southern border of Lakes Superior, Erie and io, as also in New England. The reports from the summit of Mount Washington a rain-fall of 13.5 inches, as contrasted with only 3.5 inches in July, 1872. On the hand the rain-fall of June was 3.5 inches, while in June, 1872, 18.5 inches were ed; by combining the two we obtain for June and July together, in 1872, 22 , and in 1873, 17 inches. A deficiency of rain is apparent in the province of On- on the middle Atlantic coast, over the Lower Mississippi valley and in the North- The details of the rain-fall are given for each geographical subdivision in the panying table.

Table showing the rain-fall and temperature for July, 1873.

District.	Average rain-fall.	Average temperature.
	Inches.	*Degrees.*
ngland	3.5 or an excess	70 or an excess.
e Atlantic States	3.5 or a deficiency	77 or an excess.
lake region	5.0 or an excess	71 or normal.
lake region	4.5 or an excess	66 or normal.
Atlantic States	5.5 or normal	81 or a deficiency.
n Gulf States	5.0 or normal	82 or an excess.
rn Gulf States	5.0 or normal	82 or a deficiency.
Valley	4.5 or a deficiency	77 or an excess.
Mississippi Valley	2.0 or a deficiency	80 or normal.
Mississippi Valley	4.0 or a deficiency	75 or a deficiency.
Missouri Valley	2.0 or a deficiency	75 or an excess.
orthwest	3.0 or a deficiency	75 or normal.

TEMPERATURE.

The temperature has very generally averaged one or two degrees lower than for th corresponding month of 1872, which latter was indeed in many places one of the warm est on record. Compared with the average of many years, the past month seemed t have been from one to four degrees warmer than the normal temperature over th Middle Atlantic and the Eastern Gulf States. In general, however, over the rest o the country east of the Rocky Mountains the temperature has been slightly below th average, the deficiency amounting to one or two degrees in the valley of the Missis sippi River.

The accompanying table shows for each geographical subdivision the general mea temperature, as observed and as compared with normal values resulting from man years of observation.

The details of the distribution of temperature may be seen from the isothermal line given on map No. 3, and which hold good for the general surface of the earth.

The monthly range of temperature, or the difference between the highest and lowes temperatures that have occurred during the month, is given by the lines of equa monthly range on map No. 4. It will be seen that the range is greatest in high an dry localities, and least in low and damp regions. The range also increases decidedl with the latitude, even on the Atlantic coast, a phenomenon doubtless due to the greate changes in cloudiness and humidity.

RIVER AND OCEAN TEMPERATURES.

Reports have been received for the last ten days of the month from some of th stations that have, at the suggestion of the United States Commissioner of Fish an Fisheries, been furnished with apparatus for observing the temperatures of the wate in the rivers, bays, &c.; the results promise to be of general meteorological interest The general results of these observations (the first of their kind) are given in the tabl printed on the border of map No. 3, where the comparison may easily be made betwee the temperature of the water and that of the air, &c., &c.; the water-temperature refer to the lowest stratum of water near the bottom of the river or bay, and the obser vations are made daily at 3 p. m.

In general it is found that the range of temperature increases very regularly as w proceed from Cape Hatteras northeastward. The figures for each day show that th temperature steadily increased at Boston and New London from the 18th to the 27th and then began as steadily to diminish. This change may be due either to a tidal in fluence or to a change in the warm currents of the adjacent ocean.

RIVER-OBSERVATIONS.

A general view of the results of observations of the water in the rivers is given i the table accompanying map No. 3. In addition to this table, the following remark only are necessary. The Red River fell steadily during the entire month. The Mis souri fell almost continuously, except at Leavenworth, where it rose during the first week of July. The Upper Mississippi has declined somewhat; the middle portion o the river was at first stationary or slightly rising, and then began to fall steadily; th lower portion of the river, after falling and rising, has again begun to fall. The Cum berland has experienced three sudden rises and subsequent falls, attending thre periods of rain. Similar oscillations have occurred in the Ohio, a specially large wav having moved from Pittsburgh to Louisville between the 6th and the 10th of th month.

CAUTIONARY SIGNALS.

No cautionary signals have been displayed during the month.

MONTHLY WEATHER-REVIEW, AUGUST, 1873.

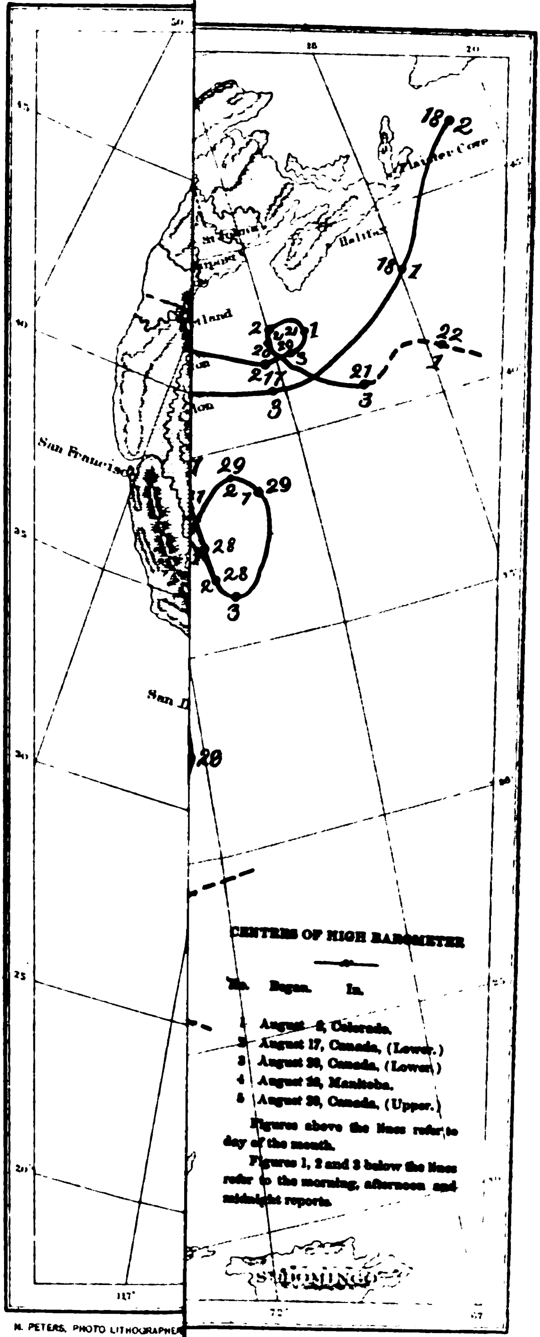
The general meteorological conditions as determined from the observations taken a the stations of the Signal-Service, United States Army, during the month of August 1873, are indicated upon the accompanying maps.

In comparing these conditions with those of the corresponding period in previou years, the most noticeable features are—

1st. The excess of barometric pressure over New England and the Middle Atlanti States.

2d. The diminution of temperature below the mean for the month of August in pre vious years, in the districts above named, and thence westward to include the lowe lake region and the adjoining States.

3d. The unusual quantity of rains in the Middle Atlantic district, especially nea the coast.



CENTRES OF HIGH BAROMETER

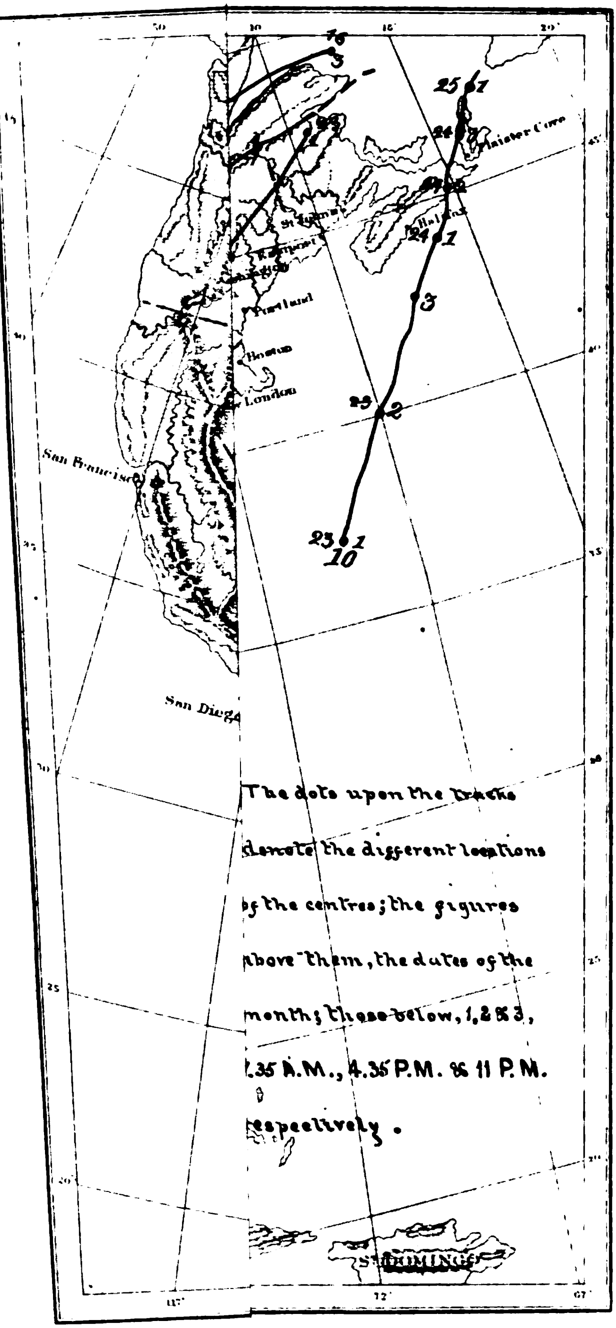
No. Began. In.

1 August 2, Colorado.
2 August 17, Canada, (Lower.)
3 August 20, Canada, (Lower.)
4 August 28, Manitoba.
5 August 29, Canada, (Upper.)

Figures above the lines refer to day of the month.

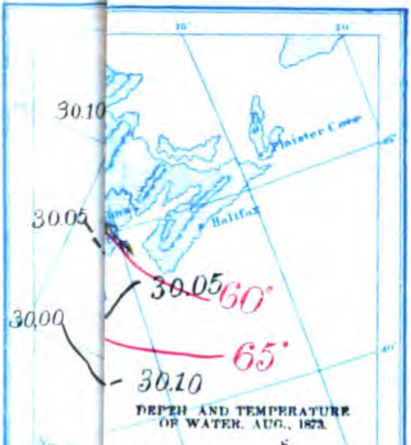
Figures 1, 2 and 3 below the lines refer to the morning, afternoon and midnight reports.

H. PETERS, PHOTO LITHOGRAPHER



The dots upon the tracks denote the different locations of the centres; the figures above them, the dates of the month; those below, 1, 2 & 3, 7.35 A.M., 4.35 P.M. & 11 P.M. respectively.

N. PETERS, PHOTO LITHOGRAPHER

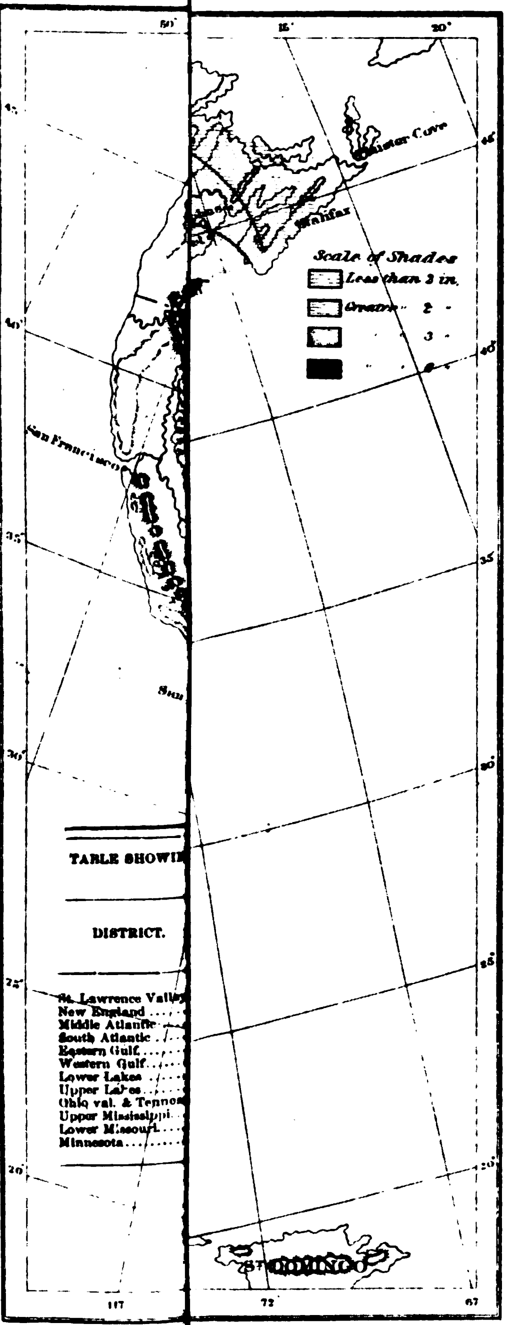


DEPTH AND TEMPERATURE OF WATER, AUG., 1873.

STATIONS.	Depth of water.	Max. Temp.	Min. Temp.
Alpena, Mich.,	14	71	64
Augusta, Ga.,	6	86	74
Baltimore,	12	83	74
Boston,	24	70	60
Buffalo,	15	75	64
Burlington,	19	75	66
Cairo,	35	85	78
Cape May,	9	76	72
Charleston, S. C.,	40	87	82
Chicago,	16	74	68
Cincinnati,		83	80
Cleveland,	20	75	68
Davenport,	*	80	77
Detroit,	20	75	68
Duluth,	15	66	56
Escanaba,	*	70	61
Eastport, Me.,	23	50	46
Galveston,	14	89	85
Indianola, Texas,	9	89	82½
Jacksonville, Fla.,	11	86	81
Keokuk,	6½	87	69
Key West,	28	88	84
Knoxville,	7	85	77
La Crosse,	2¼	80	68
Leavenworth,	13	81	75
Louisville,	9	84	76
Marquette,	15	60	51
Memphis,	33	85	80
Milwaukee,	20	70	49
Mobile,	15	86	81
Montgomery,	20	85	82
Nashville,	12	85	75
New Haven,	15		
New London,	12½	71	64
New Orleans,	30	84	83
New York,	22	75	71
Norfolk,	*	83	76
Omaha,	41	80	60
Oswego,	23	72	39
Philadelphia,	26	82	71
Pittsburgh,	8	78	73
Portland, Me.,	26	60	56
Rochester,	*	76	68
San Diego,		72	70
San Francisco,	*	62	59
Savannah,	*	85	80
Shreveport,	18	87	84
St. Louis,	11	83	71
St. Paul,	7¼	78	70
Toledo,	11	79	76
Wilmington, N. C.,	29	78	78
Wood's Hole, Mass.,	7	75	66
Yankton, D. T.,	5	82	72

NOTE.—The "depth" is the mean of the month.

*No depth given.



N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

paths of the centers of the several areas of high barometer are traced on map

se areas, with but one exception, were first observed in British America, after they moved with such uniformity, and became so unusually well defined as to it possible to locate their centers at each of the tri-daily reports of this office he time of their first appearance until they finally passed beyond the limits of ations.

general direction of these paths while the areas remained central on the conti- s approximately from the northwest to the southeast, but for want of more ex- observations their final direction after passing off the coast remains as yet un- ined.

ng the month of August, 1873, twelve areas of low barometer have been traced tri-daily weather-maps, and the tracks pursued by the centers of these areas, xplanatory notes, are represented on map No. 2. Track No. 2 may be found on p accompanying the weather-review of July.

e areas of low barometer were, with one exception, first observed either in the ies of the United States east of the Rocky Mountains or in Manitoba; and by g to map No. 3, it will be found that this region is one of mean low barometer month. Seven of these areas passed eastward to the Atlantic coast within the f our stations, with a mean latitude of 43°.

emaining areas passed to the northeastward into British America without any atmospheric disturbance in the United States.

STORMS.

reas of low barometer traced on map No. 2 were accompanied with slight dis- e while in the western portion of the United States, but no marked change in ther occurred until the 11th of the month, when the area of low barometer No. 6 was first observed in Kansas.

torm moved slowly to the eastward, with cloudy weather, rain, and light to nds, the winds increasing in force as the center approached the Atlantic coast, lly producing the northeasterly gale which occurred on the middle Atlantic England coast on the 14th and 15th. For this storm cautionary signals were d at Cape May, New York, New London, Wood's Hole, Boston, Portland, and

cond storm, and by far the most severe one that has occurred since the estab- of the signal-service, is traced as No. 10 on map No. 2. Although this storm did within the limits of our stations, there were indications of some atmospheric ce off the middle Atlantic coast on the 23d which warranted the prediction he Probabilities written from the afternoon report of that date, viz, "For the land and middle Atlantic coast, threatening weather," and from the midnight the same date, "For the New England and middle Atlantic coast, stormy with cautionary signals at Cape May, New York, and New London.

rm, in consequence of its severity, is one of unusual interest, and the course r it may vary from the actual, which cannot be determined until additional been obtained, when a complete and accurate description will be published fice.

rd decided storm of the month was first observed as an area of low barometer tern portion of Kansas on the 29th at 11 p. m. This area moved to the east- the lake region without any marked disturbance until the night of the 31st, k and high winds, with areas of rain, were reported. On the morning of the tember it had become unusually well defined in the lower lake region, after assed over Northern New England and off the Atlantic coast with increasing ly producing a violent storm since reported from vessels which were in the ntic on the 2d and 3d of September.

WINDS.

om the storms above referred to, no winds of special severity have been xcept from Dubuque, Iowa. At this station a violent tornado occurred on ich, although entirely local in its nature, developed an unusual force and t destruction of property. Owing to the carrying away and destruction of neter at this station no recorded velocity of this wind has been obtained.

ual velocity of one hundred miles per hour was reported from Mount Wash- I., during the storm of the 16th. The force developed by this wind has not d at any other station since the establishment of the signal-service.

ction of the prevailing winds of the several stations is indicated by the the map No. 3, and in comparing these directions with the isobarometric same map, it will be observed that they incline toward the area of mean ter.

W

RAIN-FALL.

The total quantity of rain during the month, as deduced from the reports of the several geographical sections, is given in the accompanying table on map No. 4. In the Middle Atlantic States and in Minnesota there has been a decided excess over the mean rain-fall as calculated from observations of previous years; while there has been about the usual amount in the South Atlantic and Eastern Gulf States; in the remaining districts there has been a deficiency. In the table referred to the quantity of rain given has been deduced by taking the general average of the reported rain-fall from the several stations in each district. The general distribution of the rain-fall, as deduced from the reports received at this office and presented in the table above referred to, is graphically represented on map No. 4.

TEMPERATURE.

In New England, the Middle States, and thence westward over the lower lake region and adjoining States, the mean temperature has been from two to five degrees below the normal, and about three degrees above the normal in the upper lake region, the Upper Missisippi and Lower Missouri Valleys, but in the districts last named the temperature has been lower than reported for August, 1872. The results of the observations for the month are given in the accompanying table, in which is noted the comparison of the temperature of the several districts, with the mean temperature deduced from observations of previous years. The isothermal lines for the month, given on map No. 3, indicate the general distribution of temperature throughout the United States.

RIVER AND OCEAN TEMPERATURES.

The number of stations supplied with the necessary apparatus for determining the temperature of water has been greatly increased, and the observations which were commenced during July have been continued and promise to be of general meteorological interest.

The table given on map No. 3, presents a general synopsis of these observations. The temperature noted is that of the lowest stratum of water at the place of observation.

RIVER-OBSERVATIONS.

In general these observations show that the rivers draining the eastern slope of the Rocky Mountains were steadily falling during the entire month; and that those draining the western slope of the Appalachian range, experienced fluctuations attending the rains of these districts. The table on map No. 3, presents these observations in a consolidated form.

MONTHLY WEATHER-REVIEW, SEPTEMBER, 1873.

STORMS.

During this month eleven low barometers have crossed the country east of the Rocky Mountains. Map No. 1 shows, approximately, the paths of their centers which have passed over the lake region in a northeastward or eastward course, excepting the two on the South Atlantic coast. Several of them were remarkably severe over the upper lakes, and destructive to shipping.

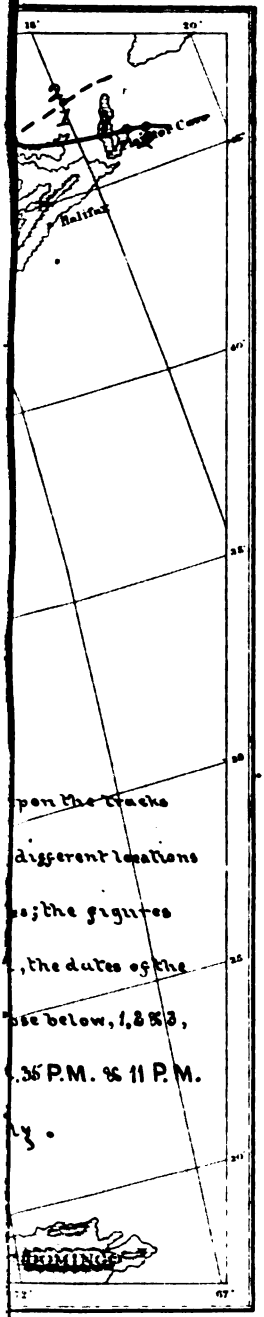
That of August 30, 31, and September 1, was accompanied by occasional rain and brisk winds over the Northwest, Ohio Valley, lake region, Middle States, and New England, the winds increasing to high from Michigan eastward over the lower lakes and Saint Lawrence Valley.

September 2, 3, 4, and 5, by brisk and occasionally high winds and rain from the Northwest eastward over the lake region, Ohio Valley, Middle States, and New England. A hurricane was reported as having lasted about one hour on Lake Michigan, and tornadoes in Massachusetts on the 4th; very severe thunder-storms, with high winds in Eastern Tennessee on the 3d, and Southeastern North Carolina on the 5th.

September 11, 12, and 13, by rain at nearly all of the stations east of the Rocky Mountains; brisk and high winds over the Northwest and upper lakes; severe "norther" in Texas on the 13th; heavy snow on Mount Washington on the night of the 14th.

September 14, 15, and 16, by high south and west winds over the Northwest and upper lakes; occasional rain over Minnesota, the lake region, and New England.

September 17, 18, and 19, by high winds over the Northwest, lakes, and Saint Lawrence Valley; by rain from the Northwest eastward over the lakes, Ohio and Saint Lawrence Valleys, Middle States, and New England.


15°
20°
Cape Race
Halifax
40°
35°
30°
25°
20°
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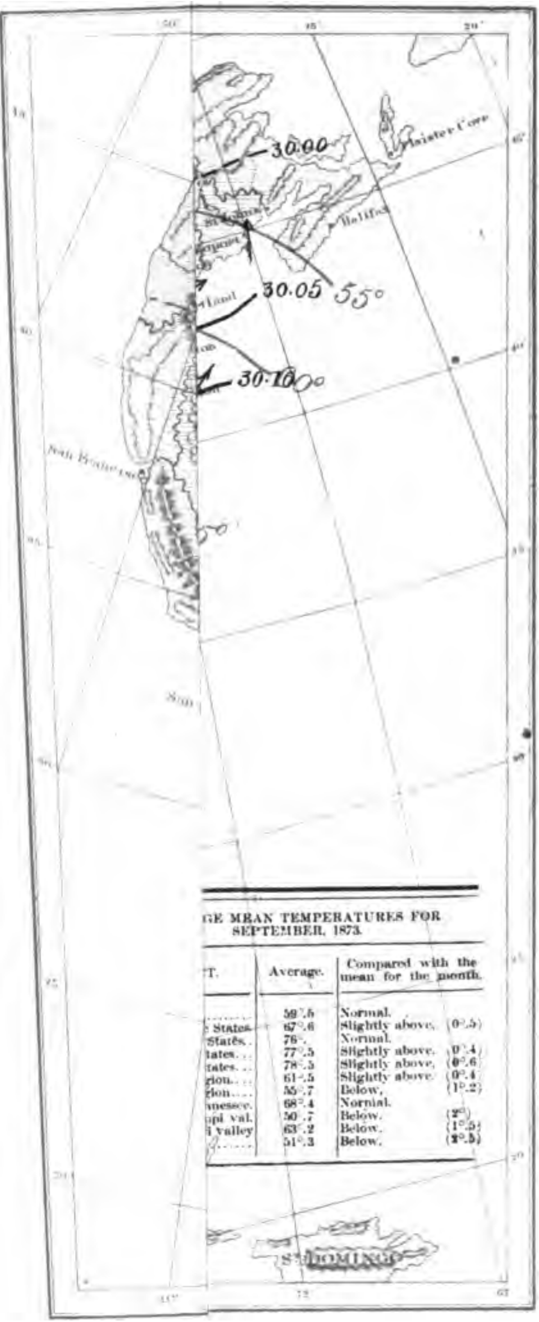
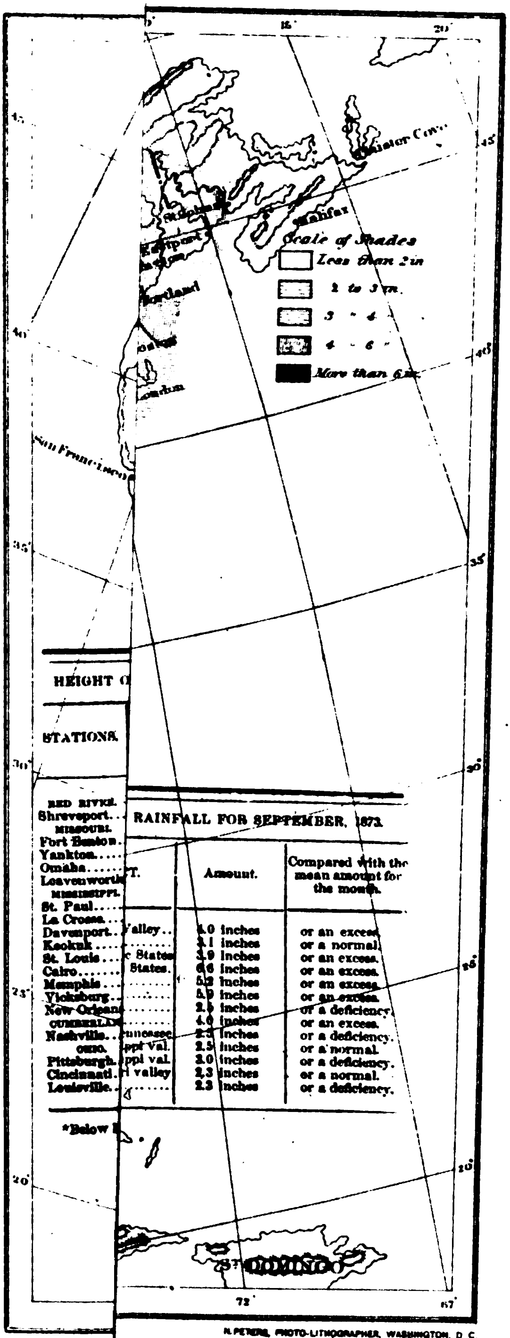
.35 P.M. & 11 P.M.
ly.
DOMINGO
72°
67°



GE MEAN TEMPERATURES FOR SEPTEMBER, 1873.

T.	Average.	Compared with the mean for the month.	
....	59°.5	Normal.	
States	67°.6	Slightly above,	(0°.5)
States.	76°.	Normal.	
tates. ..	77°.5	Slightly above.	(0°.4)
tates. ..	78°.5	Slightly above,	(0°.6)
gion. ...	61°.5	Slightly above.	(0°.4)
gion.....	55°.7	Below,	(1°.2)
nnessee.	68°.4	Normal.	
ppi val.	50°.7	Below.	(2°)
i valley	63°.2	Below.	(1°.5)
....	51°.3	Below.	(2°.5)

N. PETERS, PHOTO LITHOGR.



HEIGHT O

STATIONS.
RED RIVER.
Shreveport...
MISSOURI.
Fort Benton..
Yankton....
Omaha.....
Leavenworth
MISSISSIPPI.
St. Paul....
La Crosse...
Davenport..
Keokuk....
St. Louis....
Cairo.....
Memphis...
Vicksburg..
New Orleans
CUMBERLAND
Nashville..
OHIO.
Pittsburgh.
Cincinnati.
Louisville..

*Below

RAINFALL FOR SEPTEMBER, 1873.

T.	Amount.	Compared with the mean amount for the month.
Valley..	4.0 inches	or an excess.
....	3.1 inches	or a normal.
States	3.9 inches	or an excess.
States.	6.6 inches	or an excess.
....	5.2 inches	or an excess.
....	5.9 inches	or an excess.
....	2.5 inches	or a deficiency.
....	4.0 inches	or an excess.
unnessee	2.3 inches	or a deficiency.
ppi val.	2.5 inches	or a normal.
ppi val.	3.0 inches	or a deficiency.
i valley	2.3 inches	or a normal.
....	2.3 inches	or a deficiency.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

September 18, 19, and 20, by brisk and high winds and heavy rain from Florida to outheastern Virginia, having been very severe on the coast.

September 22 and 23, by brisk winds and heavy rains on the South Atlantic coast.

September 23 and 24, by high winds over the Northwest and lakes; rains from the Missouri and Ohio Valleys to the lakes and Middle and East Atlantic coast. This was he severest storm of the month, especially on the upper lakes, whence very heavy ales were reported.

September 25 and 26, by high winds over the Northwest and upper lakes, with occasional rain; light snow in Montana on the 26th; heavy gales on the upper lakes.

September 27, 28, and 29, by high winds on Lake Ontario and the lower Saint Law-ence Valley; rain in all sections east of the Rocky Mountains, except the east Gulf States; followed by a severe "norther" in Texas during the night of the 29th and the morning of the 30th, and by light snow from Northern Minnesota and Dakota northward.

On the 7th, 8th, and 9th, an area of high barometer extended itself eastward over he Northwest, lake region, Ohio Valley, Middle States, and New England, with fall-ng temperature, and with light frost over the Northwest and upper lake region.

13, 14, and 15.—A second, over the same region with quite heavy frost, which was ery severe on the morning of the 13th over Dakota, Minn., and the northern portion f the upper lake region.

16 and 17.—A third over the Northwest, lakes, Middle States, and New England, with frost over the northern portions of these sections.

September 19, 20, and 21.—A fourth, from the Northwest over the lakes, Ohio Valley, Middle States, and New England, with frost, except probably on the immediate coast.

September 29 and 30.—A fifth, from the Northwest south and east over the entire ountry, with low temperature, producing frost over the northern sections.

TEMPERATURE.

On map No. 2 will be found a table of the average mean temperature for the dif-erent districts for this month. For New England, the South Atlantic States, the Ohio Valley, and Tennessee, it is the same as that for many years. For the Middle Atlantic nd Gulf States, and the lower lake region, the former is the greater, from 0°.4 to 0°.6. For the upper lake region, Minnesota, and Upper Mississippi and Lower Missouri Valleys, t is less, from 1°.2 to 2°.5. Compared with the average for the same month of last ear, the former is the lower for the stations in all of the districts, except the South tlantic States, Tennessee, and the Ohio Valley, where it varies slightly above and below the latter.

RAIN-FALL.

Map No. 3 gives, approximately, the rain-fall for the various districts east of the Rocky Mountains. A table upon the same shows where there has been the average all, excess, or deficiency.

RIVERS.

The observations show that the Missouri, Red, Mississippi, and Ohio Rivers fell quite teadily during the month, excepting slight oscillations in the head-waters of the wo latter, produced by rains. The Cumberland fluctuated more or less, having been ower October 1 than September 1. Upon map No. 3 will be found a table which xplains itself.

Sixty-one cautionary signals were ordered to be displayed at our own stations during the month for seven storms, and the majority of them on the lakes. Thirty Canadian stations were warned of the approach of storms.

PAPER 27.

Special Orders } WAR DEPARTMENT, OFFICE OF THE CHIEF SIGNAL-OFFICER,
No. 78. } *Washington, D. C., June 14, 1871.*

Sergeant Frederick Meyer, observer, Signal-Service, U. S. A., will proceed without lelay to New York City, and report to Captain C. F. Hall, commander of the North Polar Expedition, for duty in connection with that expedition. He will, in addition o the performance of duty under the orders of Captain Hall, carry out the written nstructions received from this office.

The Quartermaster's Department will furnish the necessary transportation.

By order of the Chief Signal-Officer of the Army,

GARRICK MALLERY,
Capt. and Bvt. Lieut. Col., U. S. A., Acting Signal-Officer and Assistant.

WAR DEPARTMENT, OFFICE OF THE CHIEF SIGN
DIVISION OF TELEGRAMS AND REPORTS FOR THE BENEFIT OF C
AGRICULTURE,
Washington, D. C

SERGEANT: The Chief Signal-Officer directs that you will take c during your entire expedition at 7.35 a. m., 4.35 p. m., and 11.35 p mean time, of the barometer, thermometer, wind, and weather, a meteorological observations as are compatible with the duties assign Hall.

Among these additional observations, you will particularly bear i ing:

1. Frequent observations of the barometer, wind, and weather a ate to the above.
2. Regular observations of the minimum and maximum thermom
3. Velocity of wind at sea, especially in gales, and made with nu ters in different positions.
4. Forms and motions of clouds, and meteor-tracks.
5. Ozone.
6. Electrical and auroral phenomena.
7. Solar and terrestrial radiation thermometers.
8. Forms, &c., of snow-crystals.
9. Heights of twilight arcs—noting the time very exactly.
10. Dew-point at very low temperatures.
11. Spectrum-lines or bands in the aurora and the atmosphere.
12. Polarization of atmospheric light and position of neutral poin
13. Rain and snow fall at different altitudes.
14. Temperatures of sea and rivers and springs, and the earth a of 3, 6, 12, 24, and 36 inches.
15. Habits of plants and animals as affected by climate.

You will take special care to make accurate comparisons of you with other instruments that you may find at points on your journe used for meteorological observations.

You will keep all the records for any period as far as possible in book; dividing it into two portions, one for the systematic obser hours, the other for occasional observations.

You will keep a duplicate record of the systematic and more imp observations on Form 4, and forward the same to this office as ofter offer.

Very respectfully,

H. W.
Second Lieut. and Brt. Capt., U. S. A., Acting Signal-Offi

Sergeant F. MEYER,
Observer, Signal-Service, U. S. A.

SERGEANT FREDERICK MEYER'S REPORT ON POLAR EXPEDITION, 1871-'73.

WAR DEPARTMENT, OFFICE OF THE CHIEF SIGN
Washington, D.

GENERAL: I have the honor to inclose a report of my proceedin nection with the North Polar Expedition, which, by Special Or ordered to accompany. All items and data of this report are from based upon notes taken at the time of their occurrence, with the e observations for geographical position, and general outline of adven on the ice.

The report naturally arranges itself under the two general headin

I. History of the expedition.
II. Scientific operations of the expedition.

Heading II, according to the instructions of the National Academy sists of—

1. Astronomical observations.
2. Magnetic observations.
3. Observations on the force of gravity
4. Observations on ocean physics.

5. Meteorological observations.
6. Natural history.
7. Geology.
8. Observations on glaciers.

No. 1 subdivides—

A. Astronomical observations at winter quarters.
B. Astronomical observations on sea and at ports of Greenland.
C. Astronomical and geodetical observations, forming a series of systematic surveys.

No. 2 subdivides—

A. Differential observations.
B. Observations on absolute declination.
C. Observations on intensity, (relative and absolute.)
D. Magnetic inclination.

No. 4 subdivides—

A. Depths.
B. Examination of sea-bottom.
C. Sea-temperature.
D. Density of sea-water.
E. Currents.
F. Tidal observations.

No. 5 subdivides—

A. Pressure of atmosphere.
B. Temperature.
C. Winds.
D. Clouds.
E. Precipitations.
F. Ozone.
G. Solar and terrestrial radiation.
H. Crystallization of snow.
I. Moisture.
K. Electrical phenomena.
L. Auroral phenomena.
M. Heights of twilight arcs.
N. Optical phenomena.
O. Shooting-stars and meteors.
P. Miscellaneous.

F. MEYER,
Observer Signal-Service, U. S. A.

Brig. Gen. A. J. MYER,
Chief Signal-Officer of the Army.

GENERAL DESCRIPTION OF THE VOYAGE OF THE STEAMER POLARIS FROM NEW YORK TO GODHAVN, DISCO.

I.—HISTORY OF THE EXPEDITION.

In compliance with the instructions received from the Chief Signal-Officer of the Army, I proceeded to New York in order to report myself to Captain Hall, commander of the North Polar Expedition, then about in readiness to leave port on its voyage to the arctic regions. Arrived at New York, I set at once to work to procure several nstruments to complete my outfit as meteorologist of the expedition, and arranged my plans in regard to meteorological work.

All this occupied the entire time the Polaris was anchored at the Brooklyn navy-yard, where numbers of visitors appeared every day to look over the ship and give us their wishes to the adventurous enterprise which we were then about to undertake. The noble people of New York and Brooklyn did not only wish us a successful voyage, but they also contributed largely to our library, in presenting, for the use of the crew, enough of reading-matter to wear away agreeably the long and dark winter months soon to come.

om north latitude 40° and west longitude 70° to north latitude 42° 20′ and longitude 60°, the equatorial and polar currents follow their course respectively, northeast and west-southwest, in close proximity, and produce heavy fog by rapid ge of temperature of air-currents as they pass over the surface of sea-currents of different temperature. On the other hand, whenever the wind blows in such tion as to cross sea-currents, driving the waters of one into the other, the ent specific gravity of those currents will necessarily cause an additional motion e waters, which is shown by the above-mentioned swell.

one hour, Greenwich time, we commenced to take three-hourly meteorological vations, which, in connection with the latitude and longitude derived from nomical observations and the log, make up the complete meteorological record of oyage. During the following day, the fog and swell of sea continued to increase, ng a clear sky whenever the fog was depressed by a strong upper current.

o on July 5 and 6, we were perfectly encircled by a fog, the sea continuing to be

ly on July 7 having come up to north latitude 42° 20′ and west longitude 60°, the sappeared, and the sea ran smooth.

July 5 we commenced to take frequent observations of the sea-temperature on rface and at greater depths, as also of the specific gravity of the water. In the ng the sea-temperature fell very rapidly, we being far from the direct influence equatorial current.

ing July 8 fog made its appearance again, the wind blowing from a westerly direc- hich carried the warmer air over the cold currents, upon which we were then ssing, and which kept a nearly stationary temperature.

July 9 the temperature of the sea fell still more, governing the temperature of , while heavy fog, caused by northerly and westerly wind, would not permit us the ship during night on such dangerous grounds as the Newfoundland banks. ard morning of July 10 the fog condensed into light rain, until in the afternoon he sea-temperature suffered a very rapid depression, which caused heavy fog, over into rain.

lly, at 12 m., July 12, we arrived at St. John's Harbor, where we found the sea- ature quite low, while the air-temperature, influenced by the soil, was con- ly higher. Hardly any fog makes its appearance in St. John's Harbor, the air ery dry, and not capable of producing condensed vapor in the lower strata of here.

ohn's Harbor forms a small basin encircled by granite rocks, having the appear- being encaved and rounded by former glaciers. We anchored at St. John's until the 19th of July, Captain Hall being engaged in making additional pur- of coal and provisions. At 4 p. m. July 19 we left St. John's Harbor, being ac- ied by the American consul of St. John's, who, when he left the ship with the as cheered three times, to which he responded in the same manner.

t five miles from the coast, bearing southwest by south, we saw a mirage of a la, showing an inverted image immediately above the one seen directly and in stinct outlines. We also saw a faint aurora at 9 p. m. of 45° altitude bearing th, and consisting of faint red and yellowish rays going over into white light.

ly 21 we found the sea-temperature increasing and nearly equal to that of the ward morning of July 24, north latitude 55° 42′ and west longitude 51° 30′, temperature stood above that of the air until morning of July 25, when the erature rose above that of the sea.

ly 25 toward midnight we saw a brilliant aurora, which, making its first ap- e as an illuminated cumulo-stratus cloud, soon transformed into a broad ribbon are-edged, screw-like appearance, and based by the same cloud, which showed ish light. The ribbon or screw showed distinctly all colors of the spectrum, ading parallel with the horizon, and at the crown, first formed a faint arc of light over its crown and then transformed itself into a faint arc of spectrum hich finally combined with the upper arc, showing a most brilliant arc of light with diverging rays of purple and violet color.

y 27 we arrived at Fiskenaes, where Captain Hall intended to engage for the f the expedition the Esquimaux, Hans Christian, who had been a member of litions under Dr. Kane and Dr. Hayes.

re informed that Hans Christian was then at Upernavik, and in the Danish ser- skenaes is a small village of seventy inhabitants, which are mostly half-breed ux, and live on the earnings of seal-hunting and fishing, by exchanging them sions and necessaries of life which the Danish government provides for them. ange is conducted by Gov. M. Shonheyder, under whose jurisdiction comes ittle missionary settlements of Lichtenfels, located on the same island to the t, and inhabited by ninety members of the brotherhood. Both villages be- e district of South Greenland, and their provisions are sent yearly in open n Godhaab, the principal place of South Greenland, which boats return to with the fat, blubber, and cod-livers bought by the governor of Fiskenaes.

Fiskenaes is entirely built on rocks, which consist of granite, with quartz-veins ar porphyry. Vegetation is scarce; only the governor possesses a few artificial beds vegetables, but an abundance of alp-flora are vegetating in the neighborhood. Ve few reindeer are to be found near Fiskenaes, and the ice-bear approaches only abo once in twenty years; but an abundance of seal and codfish is yearly collected.

The Esquimaux inhabitants are of good appearance, well fed and healthy-lookin which the governor assures me is the result of a law issued by the Danish governme prohibiting the sale of fresh fish and compelling the natives to keep a large supply fish on hand in storage for the long cold winter.

The male Esquimaux, in average, measures five feet, is of rather lazy habits b great endurance, and from eight to fifteen live in one small house built of lumber, ar covered with peat, or entirely built of turf. The female Esquimaux is smaller bui with very small hands and feet, and their hair tied at the crown of their heads by ribbon, which, according to its color, signifies their state in relation to matrimoni life. A red ribbon signifies the female to be a virgin; blue, a married woman; bla and white, a widow; white with a small ribbon wound around it, a widow who wish to marry; green, a girl who has borne a child.

Each congregation has a teacher or catfiecet, who preaches the divine word, but not allowed to join members of the congregation in matrimony.

The minister of the gospel and physician visit the place once a year.

Several remarkable habits of the Esquimaux were related to me, of which I no the following most remarkable:

After taking the holy sacrament each native shakes hands with all present Eur peans, which signifies their gratitude in regard to the acquirement of the Christian r ligion. Mortality among the natives is not great, but greatest in spring. It has bee related to me that during last winter forty inhabitants of an island near Julianha perished by starvation, being blocked in by ice in such a manner as not to permit a provisions to be sent there.

The mean temperature of Fiskenaes during summer months is said to be about +1 Reaumur, while the winter is not very severe, and sometimes rather mild, as in t case of the preceding one, when the greatest cold observed was —14° Reaumur. T prevailing winds are northerly in winter and southeasterly in summer.

During winter months a southeast wind bears almost always the character of gale approaching in elastic waves, which strike the lower strata of the atmosphere intervals, and are very dry and rather mild. The snow-line in South Greenland, I w informed, varies from 2,000 to 3,000 feet elevation, and therefore no permanent snow known at Fiskenaes, none of the surrounding mountains being higher than 2,000 fe

At 3 a. m., July 29, we left Fiskenaes, encountering a southwest gale, indicated by light westerly wind and a rapid rise of the barometer on the evening of the precedi day and morning of July 29. At 8 a. m. the wind veered to northwest, the baromet falling rapidly, which continued after the wind had veered to southwest.

The change of wind to southwest was accompanied by light rain, which ceasing intervals grew into heavy rain, with an increasing force of wind.

At 7 p. m. the maximum velocity of wind was thirty-six miles per hour, and t minimum height of the barometer was 29.649, occurring at 8 p. m., when the force wind gradually decreased, and the barometer slowly rose until 11 p. m.

At 11 p. m. the wind shifted slowly to west on the way to northwest, and rapid lessened its force—the barometer rising rapidly, and clouds clearing away.

During the entire time the thermometer, within a very small range, marked di tinctly the succeeding phases of the storm, rising until the barometer reached its ma imum, on the morning of July 29, and then falling up to the time when the southwe wind set in, when, rising again for a short period, it continued to fall until the wi gradually veered to west. At 11 a. m., July 31, we arrived at Holsteinborg, where found two Swedish government vessels, (steamer and schooner,) which were then their return to Sweden, having been sent to Disco, in order to take up a piece of m teoric iron, which is thought to weigh about 300 tons, and in addition to which th found two more pieces of the same structure. These two vessels, under command Captain Van Otter, having on board a botanist and a geologist, steamed and sailed as far as Upernavik, sounding and ascertaining frequently the surface and botto temperature of the sea. They also stated that the sea upon which they had be cruising was unusually free of ice, and very favorable for our voyage.

At 4 p. m., August 2, the Swedish vessels left port, proceeding on their voyage Sweden. Holsteinborg is a small but beautifully situated village, surrounded by hi and steep mountains of granite, and under the jurisdiction of Governor Elsborg. Ba ren of vegetation, with the exception of a few artificial beds of vegetables in poss sion of the governor, the alp-flora is of less variety. Reindeer are scarce, and wh we reached Holsteinborg no reindeer-skins were to be got—ice-bear being also rarity.

The natives are of the same type as at Fiskenaes, following the occupation of hunti fishing, and occasionally whaling, which they keep up with success on their own t during winter, sailing to the west side of Davis's strait during summer.

n July 31, Captain Hall, Dr. Bessels, and I went ashore, in order to take sights for itude of Holsteinborg, and ascertained, according to my computation, Holsteinborg e situated at 53° 53′ 45″ west longitude.

3 p. m., August 3, we left Holsteinborg, and proceeded to Godhavn, or Lively, o.

oout thirteen miles from Holsteinborg we passed by the peak known as Woman's d, which on its southerly extremity resembles very much a woman's hood, and of h I made a sketch. We arrived at Godhavn at 3 p. m. August 4, where, in consul- n with the governor of Lively, Mr. Lassen, we learned that good coal might be t Scansen and Rittenbank, but that the first-mentioned place was dangerous to or at, being exposed to southwest gales. Captain Hall, therefore, concluded to for the supply-vessel until the 15th of August, and then proceed to either one ese coal-mines.

also dispatched a boat, under the command of Mr. Chester, to Jacobshavn, where nspector of North Greenland stopped at the time, in order to induce him to come vely, so that Captain Hall might be able to procure the necessary stores, in case upply-vessel should not arrive in time. Mr. Chester left Godhavn at 1 p. m., st 6, and returned at 2.30 a. m., August 11, bringing with him specimens of the of Scansen, which showed the structure of wood, and formed thin layers.

August 5 we saw a parhelion, which showed a distinct eccentric ring of spectrum s, the red light facing the sun; yellow, green, and faint blue following in succes- The altitude of the sun was at the time 14° 54′, and of the ring (vertex) 75° 26′. ng north of the sun at a distance of 22° 42′ a parhelion made its appearance show- intly the spectrum colors, the red light facing the sun, yellow following, and g in distinct white rays of at least 20° length.

August 10, at 2 p. m., the steamer Congress, under command of Captain Daven- with supplies of provisions and coal, arrived at the port, having on board Dr. an and Mr. Bryan, ministers of the gospel, and Mr. Bryan, jr., the astronomer of pedition.

ll briefly state that after the arrival at Godhavn of the Congress, with provisions al, several days sufficed for the transfer of these provisions and coal, partly to laris and partly to the store-house of the Danish government. While at this y Captain Hall was considering about my return to the United States; he had d me solely to attend to the navigation of the vessel and keeping of his journal, ohibited all meteorological observations, and observations of any description; der I thought to be in discordance with my instructions and the general purpose presence with the expedition, and I therefore applied for permission to return to ates. At first Captain Hall appeared willing to grant my request, but shortly the Polaris left Godhavn he changed his intentions, and permitted me to com- h my instructions from the office of the Chief Signal-Officer of the Army, besides cution of his own orders. I gladly accepted Captain Hall's decision, and ex- l my general willingness to promptly execute his orders.

ing Godhavn, where Captain Hall had procured a written permit of the in- of North Greenland for Hans, the Esquimaux, to leave the Danish service, and hat of the Polar Expedition, the Polaris headed to the west of north, and after ys' run arrived at Upernavik, a comparatively large settlement of natives, under nish government. At the latitude of Upernavik, and even farther south, the f Greenland is studded with small islands and rocks, which like a line of skirm- rotect the coast from the wearing influence of the heavy arctic ice, continually g by on its long trip from the high northern latitudes, where it arises and grows, to antic Ocean, where it wastes and finally disappears. On one of these islands vik is situated, with a snug little harbor, protected on three sides by hills of ble size. As soon as the anchor dropped, Dr. Rudolph, the governor, and erg, who was to take the governor's place in the course of a few days, visited ris, and at once were presented by Captain Hall with letters from Inspector who enjoined the Danish officers to do their utmost in procuring dogs and r the expedition, as well as to be of general assistance to Captain Hall in the transactions of the expedition. Already, the morning following our arrival navik, a great number of seal and dog-skins and a few dogs were received on nd a boat expedition under command of H. C. Chester, mate, sent to Proven, to rnor of which Dr. Rudolph previously had dispatched, by kiak-mail, orders 's departure from Proven, and for the deliverance of the same to Mr. Chester, ordered by Captain Hall to engage Hans's services for the expedition. Mr. with Hans and family returned to the vessel a day or two after. Soon after ris was gotten ready for departure, and the governor, Mr. Elberg, who had d Dr. Rudolph, accompanied the expedition to Tessuisak, where he intended Captain Hall in procuring a great number of dogs, and to conduct the final transactions of the Danish government with the North Pole Expedition.

Tessuisak is situated on an island which lies in the entrance of a deep bay, the hea of which consists of a large glacier, and consequently the bay always abounds in ic bergs. At the season of our stay at Tessuisak these icebergs were rather far advance in decay, and hardly at any time the air would not be vibrating by the tumbling an rolling of one or the other iceberg, causing a noise most similar to the sounds of battl in the roaring of field-pieces.

As expected, Captain Hall procured a number of dogs and ready-made skin cloth ing at Tessuisak, settled his accounts with the Danish government, and, as soon as t weather permitted, left the harbor of Tessuisak with Mr. Jensen, the acting governor Tessuisak, as pilot. Captain Hall had exerted all his powers of persuasion to induc Mr. Jensen to join the expedition, but in vain. Mr. Jensen would only agree under th unreasonable condition that he should have the command of the vessel on her a rival in Smith's Sound. The first evening and night after leaving Tessuisak we mad but little progress in Melville Bay, as thick fog compelled us to advance carefully but on the morning of the second day Cape York was sighted and the appearance of Ca Dudley Digges expected. When arrived at the latitude of Cape Dudley Digges, was found impossible to land and comply with the instructions of the Secretary of th Navy, as heavy ice intervened between the vessel and the shore. Running close t the coast, we passed Wolstenholm Sound, between Wolstenholm Island and Cape Atho and leaving the latter on the starboard quarter we ran up to within five or ten mil of Fitzclarence Rock, where the vessel had her first trial of working ice, in pushin through it from Fitzclarence Rock to Cape Parry, at the latter, where she entered th open water again by holding more to the westward. Passing Northumberland Islan at a considerable distance west, the Polaris without difficulty ran up to within a fe miles of Cape Alexander, and leaving at her stern in succession Port Foulke and Ren selaer Harbor, the winter-quarters of Dr. Hayes and Dr. Kane, she crossed Smith Sound and came within a few miles of Cape Hawks, where she encountered ice, but w rounded it by steering south and west; then running parallel with the coast until w arrived opposite Cape Frazer, she was stopped, and Captain Hall, accompanied by M Tyson, inspected the little inlet to the north of Cape Frazer for its qualification a either provision-depot or winter harbor; but finding it shoal, Captain Hall abandone all ideas of establishing his winter-quarters at the locality, and also failed to establi a depot. Keeping within ten or fifteen miles of the coast, we ran up Kennedy Cha nel, winding through more or less ice, until, in a thick fog, an ice-barrier appeared stretch across the channel. After several fruitless attempts, an opening was disco ered, which led us to within two miles of an island seen on our starboard bow. Fi or six hours later we found Kennedy Channel to be widening, and at about 9 a. Captain Hall and myself made observations for longitude, which, computed separatel determined the latter to be 64° 35′ west, (if my memory is not in error.) The fo shutting in, the vessel was stopped, until at 12 m. all persons capable of making o servations for latitude agreed our latitude to be 81° 24′ north.

At 1 p. m. the sky and horizon cleared, the vessel started, and then we saw, in pla of Kane's open Polar Sea, a long stretch of coast-line to the east of us, which, bare snow, sweeped in a shallow curve from north to south; the west side of the chann was also in sight, the general character of the land being torn and weather-beat rocks, with mounds of loose rocks and gravel in front of them. Steaming parallel t the east side of the channel, we, toward evening, entered a still narrower strait, whic received the name of Robeson Channel, called so by Captain Hall after the Honorab Secretary of the Navy. On we proceeded in this channel, passed a deep bay—afte wards called Newman's Bay—until hauled up a second time by an ice-barrier, whe Captain Hall ordered the vessel to be fastened to a floe, while I was busy computin the dead-reckoning from our last observation—81° 24′ north, 64° 35′ west—to the prese position of the ship. I was then invited to Captain Hall's room, and telling him th latitude, 82° 16′ north, and longitude, which I cannot recall, found, by dead-reckonin also temperature of atmosphere and surface-water, pressure of atmosphere, &c., h filled out two of the printed forms of records with a short extract of the expedition history, position of the vessel, data of weather and sea, and a statement of the fa prospects of still advancing further north. One of these records Captain Hall inclose air-tight, in a copper cylinder, previously weighted on one end with shot, and retaine the second copy. Only a short time the vessel remained fastened to the floe, when sh was directed to the east and south, until we arrived at the east coast, near a sma inlet. Here Captain Hall and Mr. Tyson visited the inlet, and examined it as to i qualification as a harbor, but found a strong action of the tide and ice working. Th vessel then steered back to the westward, and fastened to a floe, where she remaine all night. Early next morning the vessel returned to the above-mentioned inle Captain Hall and Mr. Tyson re-examined it; but finding their opinion of the prece ing day corroborated, Captain Hall called a council of the ship's officers to deci upon the further course of the vessel, and enjoined me to record the proceedings of th council. During this council all the officers, with the exception of Captain Buddin ton, expressed the same opinion, according to which the vessel should be directed nor and west, endeavoring to find a lead north, and, if not successful, to make the west coast and a harbor thereon. Captain Buddington's opinion was to enter the above-mentioned inlet, afterwards called Repulse Harbor by Captain Hall, and establish winter quarters; or, if not disposed to do so, to run south to what afterwards was called the Southern Fjiord, and anchor behind the island at its entrance. Captain Hall decided in favor of the majority, and the vessel slowly worked through ice on a course a little to the north of west, but instead of gaining lost ground in latitude. Finally, fog shut in, she was fastened to a floe, and soon got beset by heavy ice. In this condition she remained four days, during which time she continually drifted to the southwest. While beset, the vessel at times would labor under such heavy pressure that Captain Hall twice thought it necessary to deposit stores and provisions on the floe. On the evening of the fourth day of drift the ice spread, and the Polaris steamed on a nearly due east course to the shore and anchored in a shallow inlet, which received the name Thank God Harbor, called so by Captain Hall. This inlet could hardly be called a harbor, and the only protection against the grinding ice the Polaris found, was a large grounded iceberg, to which Captain Hall gave the name of Providence Iceberg. Next morning stores and provisions were landed, and the determination of latitude and longitude was commenced by Captain Hall, Mr. Bryan, and myself.

A few days after our arrival at Thank God Harbor, Captain Hall enjoined me to at once survey it, which I executed by surveying from the southeast cape of Robeson Channel, called Cape Lupton by Captain Hall, to the northeast cape of the Southern Fjiord. Thank God Harbor is formed by low, sandy land, which evidently is an alluvion from the hills to the northeast of it. These hills vary from 900 to 1,300 feet in height, are of slate formation and very much torn and weather-beaten, but bare of snow in summer. The water of the harbor is shallow—fourteen or fifteen fathoms being the average depth.

On our arrival at Thank God Harbor we found it thickly populated by geese and ducks, but they were missing next morning. While engaged at the survey of Thank God Harbor I met with two accidents which nearly terminated my earthly existence.

One morning, going out with the intention of stationing myself on the summit of the hill north of the vessel, deeply in thought, I took the wrong route and soon found myself on an almost perpendicular portion of the hill; endeavoring to climb up I lost my foot-hold, and was precipitated down a height of at least 200 feet; a heavy stone rolling down behind me caught my coat and stopped my involuntary descent, saving me from finally bringing up against a rock. At another time, in company of Mr. Bryan and Mauch, I crossed Polaris Bay to its south coast on the newly-formed young ice, and when returning Mr. Bryan and myself in succession fell through a crack, and were only saved from being drowned by rendering assistance to each other; and from freezing to death, by keeping on a sharp pace until our arrival at the ship, when Mr. Bryan, almost entirely used up and insensible, had to retire to bed immediately. Mauch had stayed back, and when finally arrived at the vessel he was staggering, out of his senses, and hardly able to keep himself up.

Soon after, Captain Hall sent out a sledge journey under command of Mr. Chester and accompanied by Dr. Bessels; this expedition traveled about fifteen miles south, and from the range of hills on the south coast of Polaris Bay saw a glacier extending east and west as far as eye could reach; they also found an elevated plain bearing to the northeast, between the range of hills northeast of Thank God Harbor, and those at the south coast of Polaris Bay, and shot a musk-ox. Captain Hall now prepared for a sledge journey, but was not quite ready until the 10th of October, when he issued orders to Captain Buddington and Mr. Morton in reference to the command of the vessel and provision matters, and started with two sledges, accompanied by Mr. Chester, Joe and Hans, with the intention of a two weeks' absence. The object of this journey was to reconnoiter the land as to its qualification as a route to be taken in spring, and to get acquainted with the resources of the country. During the absence of Captain Hall, the observatory was erected and fitted out; when he returned, on the 24th of October, 1871, we were ready to commence all observations prescribed by the instructions of the National Academy of Sciences.

From what I learned afterward, Captain Hall had been to Newman's Bay by way of the elevated plain mentioned above, and traveling to the entrance of Newman's Bay, ascended the cape, on the northeast, and deposited a record at the summit of said cape.

Soon after Captain Hall had set foot upon the vessel he was taken ill, complaining of the stomach, and retired to bed; next morning his left side was found paralyzed, and he remained in this state for some days, when he became better, left his bed, walking about in the cabin, and having his secretary, Mauch, read to him; he then had a relapse, took to the bed again, and became delirious, in which state he remained until the 8th of November, 1871, when he died. The remains of Captain Hall are interred at about half a mile to the southeast of the ship's anchorage; the place of interment was marked by a flag, the solidity of the frozen ground not permitting the erection of a board until the spring following. The engraving upon the board gives the principal achievements of the expedition, the age of Captain Hall, and date of his death and burial. During the summer of 1872, I included Captain Hall's grave in the general survey of Thank God Harbor, by reference to three points previously determined by the theodolite and chain.

After Captain Hall's death, Captain Buddington assumed command of the vessel, and jointly with Dr. Bessels issued a proclamation, wherein they stated that the provisions made by the Secretary of the Navy, in case of Captain Hall's death, should be carried out; that Captain Buddington would have the command of the vessel, while Dr. Bessels was to direct all sledge journeys and scientific operations. Arctic night had then set in, and scientific observations at winter-quarters had commenced; the vessel had been housed in under canvass and banked in with snow. During the entire dark winter, the members of the scientific party were busily engaged in carrying out the instructions of the National Academy of Sciences, while all others had to content themselves with active exercise on the ice and the reading of books of instruction and fiction. No marked incident or accident occurred during the four and a half months' darkness, with the exception of one soon after Captain Hall's death. During a severe northeast storm, the ice, wherein the Polaris had bedded, broke up, the anchor-chain, also frozen in, was carried with the ice, and the anchor dragged; it therefore was found necessary to unshackle the chain, and the Polaris drifted to the southwest, bringing up against Providence Iceberg, to which she was secured by ice-anchors. The northeast storm, the original cause of this accident, lasted three days, and had commenced two days before the vessel broke out; it started as a high wind during my watch at the observatory, and increased to a tremendous gale during Dr. Bessel's watch.

Waking up in the morning, I found the vessel laboring heavily, and from different sides heard fears expressed of Dr. Bessels's safety. I therefore got a few victuals to take with me, and left the vessel; but struck by the gale, I found it impossible to stand up, but had to be content with making my advances on all-fours. Dark as it was, the snow drifting so as to enter through clothing and lodge near the skin, I could not see but one yard ahead of me; and if, by inclining my shoulder too much either to left or right, I once took a wrong direction, it was more than likely that I never would see again either observatory or ship. Steadily I advanced, and soon had the satisfaction to arrive at a pole, erected in line with the observatory and ship, close to the beach. I now endeavored to crawl up the ridge to the observatory, but was driven back by the wind a number of times, until finally I succeeded in getting under the lee of the provision-depot, and from there to the observatory. I found Dr. Bessels shivering with the cold, (—28°,) and anxiously waiting for an opportunity to return to the vessel. He had made several attempts to return, but the fearful tempest had defeated his physical strength. He had registered the meteorological features of the storm until a light could not be kept burning any longer, the wind blowing at the rate of fifty-eight miles per hour, and still increasing.

Soon after my arrival at the observatory the two natives entered, having followed me, but lost their route. We then all started for the vessel by sliding on the ice, driven by the wind; when the ship loomed up we were within a few yards of it; all arrived safely at the Polaris without injury, excepting a few slight frost-burns.

Soon after the northeast gale's abatement a southwest storm sprung up, which, by driving the iceberg inshore, caused a heavy pressure on the vessel, so much so that Hans and family sought refuge at the observatory. During the entire winter the vessel had a list to starboard, and thereby strained her stern and bows, which were found to be in a leaky condition as soon as the ice around the vessel commenced to melt.

On the 28th of February, 1872, the sun made his re-appearance, but was then nearly 2° high at 12 m. I never before saw such enthusiasm and rejoicing over a sunrise as on that occasion; and I especially recall the carpenter, who during the winter had shown symptoms of insanity, carrying around a bottle of claret, which he had preserved during the entire winter, and inviting everybody to drink with him. And, indeed the sun's rise, after four and a half months' absence, was a matter to rejoice in. I think everybody had felt the influence of the absence of light by losing appetite, sleeplessness, and depressed spirits.

Dr. Bessels now officially communicated with Captain Buddington, making the following propositions: As soon as daylight is sufficient, to start two different sledge parties, one north and the other south; the southern expedition to connect our survey with Cape Constitution, and to consist of one sled; the northern expedition to proceed on the strait ice, with two sleds, and to make land, if possible, north of Polaris Bay, and to proceed from there either along shore or on land farther north; the vessel, as soon as broken out, to make her way in the same direction, and come to the relief of the northern expedition. These propositions were rejected by Captain Buddington in an official communication, stating that as soon as small leads occurred he would start to the north in two boats. This decided the question, and we all were anxiously waiting for the occurrence of those leads.

Early in spring the natives and Mr. Chester made several hunting-trips on sledges to Newman's Bay, and always returned, sledges loaded up with meat, leaving the greatest part stored at Newman's Bay.

Dr. Bessels, Mr. Bryan, Joe, and Hans traveled south, crossed the Southern Fjiord, and proceeding from there about forty miles farther south, Hans recognized Cape Constitution at some distance south. A wide crack in the ice stopped the party from visiting the point itself; while in the Southern Fjiord to some distance they saw no head to it, and treasured a great number of important fossils at the island in the entrance of the fjiord.

About this time I undertook a journey to Newman's Bay for surveying purposes. Newman's Bay is about forty miles deep, and from seven to twelve miles wide, with hill-ranges on either side of the entrance and head. In the middle of its length it is bound by an elevated plain on the west side, and by plains, in terraces, on the east side. On these terraces I traveled to about latitude 82° 09′ north, longitude 57° west, and surveyed as far as the eye could reach. I was stopped by want of provisions, which had been provided by Captain Buddington.

In June water was making around Cape Lupton, and Mr. Chester, returning from reconnoitering, reported in favor of the dispatch of two boats, which were sledged to Cape Lupton, and placed under command, respectively, of Mr. Chester and Captain Tyson. Dr. Bessels accompanied Mr. Tyson, and I accompanied Mr. Chester. The morning following our arrival at Cape Lupton, Mr. Chester took to the water, and by rowing and driving over the ice the boat and provisions, we succeeded in reaching a point on the coast three or four miles north-northwest of Cape Lupton. Here we pulled the boat up on the ice, and a watch was set. The men laid down in a tent, while Mr. Chester and myself slept about five yards from the tent and boat.

Early in the morning next day we were roused by the man on watch, who first reported that water was making round us, and then that an iceberg, propelled by a heavy floe, was coming upon us; but before he had finished his report the ice broke between the ice-hook holding the boat, and the boat started to drift; the man on watch leaped the crack and returned to the boat, then in danger of capsizing with the ice and laboring under a heavy strain from the rope holding it to the ice-hook. The rope had to be parted; the boat and tent drifted off with the crew, while Mr. Chester and myself remained near shore on the remainder of the original piece of ice, which soon was crushed by another and heavier piece rising to a vertical position and falling down on the former; we narrowly escaped to the shore-ice. A similar fate awaited the piece with the boat and tent on, and when this occurred the crew was just in time to reach the shore-ice. I then saw that the boat, although crushed, was partly held up by the ice underneath. I at once leaped over to her, having asked to be warned of any roll or motion of the intervening small ice. Most of the crew followed, and we succeeded in saving part of our clothing, some provisions, and nearly all instruments. Several times the ice started to roll, and some of us came very near being crushed by the ice. We then returned to the vessel, and on passing Cape Lupton found Captain Tyson had not started yet.

Mr. Chester procured permission from Captain Buddington to make a second attempt with the canvas boat, and in the course of a few days we were ready, and sledded the boat to Cape Lupton, where we immediately took to the water, pulled a few miles, but finally were compelled to haul up on a big floe. A heavy north breeze sprung up; the pack-ice closed around us and intervened between floe and shore. Here we remained an entire night, drifting rapidly south, and convinced that, if the ice kept closing in on us, we would have to stay on the floe and finally fall victims of starvation. I endeavored to cheer my comrades, but without avail. Thinking this a second failure, their spirits were depressed; nevertheless, we laid down on the ice and slept until morning, when the ice spread, and we at once launched the boat in the midst of this ice, and during the following twelve hours made our way to Newman's Bay, where we found Captain Tyson, having pulled up his boat on the bay-ice. As no further progress could be made, heavy pack stretching across the channel from Newman's Bay to the west coast, we also took up our quarters on the bay-ice, and remained there during the following six weeks, patiently waiting for an opening to the north.

Almost every day, while on this stationary bay-ice, I would observe that with the ebb a streak of water would form between bay-ice and strait-ice, extending in a semicircle from Cape Brevoort to Sumner Headland. We have to be thankful for many narrow escapes while on this bay-ice. I will only mention two cases, which occurred at almost the same time to each boat, separately. At midnight of some day in the first part of July, the heavy strait-ice closed in upon the bay-ice with such a heavy pressure that it rose vertically alongside of us, and we were compelled to desert skins, and rapidly remove boat and stores, while most of us had no time to protect our feet by either stockings or boots. During the same night a part of the bay-ice, from which Captain Tyson and boat had removed the preceding afternoon, was crushed to splinters by the grinding strait-ice. I have often wondered how careless the adventurer will become when once used to dangers. Similarly to the inhabitant of a large city, who in case of fire will not think of his own safety until the walls of his residence have caught the flames, the arctic traveler, hearing a constant cracking directly under himself, will not stir until he actually sees the ice breaking.

During my stay at Newman's Bay I crossed the bay-ice, and, ascending the northeast coast of the bay, traveled on the east shore of the channel until I reached the northern limit of Repulse Harbor, where I staid four hours, in order to determine latitude and longitude, and to take bearings of all land visible. The station I had selected was elevated somewhat above 1,700 feet, and the horizon, at such an elevation, forty-five miles distant, from north to east-northeast appeared as a continuous bright line of dark blue, glittering in the sunlight. Although seen by other observers, and declared to be land, I cannot but announce this bright line to be a sure sign of an open sea. No elevations were seen; and if there is any land to the north and east-northeast of Repulse Harbor it cannot but be at a considerable distance from where I was viewing the surroundings. The space between this bright line and place of observation was filled with smooth cakes of ice, with serpentine leads of water between them. I started homeward, under the impression that any strongly-built steamer, when once forced through the ice, barring the narrowest part of Robeson Channel, might at full speed run up to this bright line and there find open water for further progress. I had some difficulty in finding our boat among the hummocky ice, and when finally arrived I became snow-blind and remained so for several days.

The question may arise, why I did not proceed farther north while traveling on shore. In answer, I have to state that, while at Newman's Bay, we from day to day expected an opportunity to start north by boats, and therefore I did not want to stay away from the boat longer than twenty-four hours.

In the first part of July, still hoping for success, we got rather low in provisions, and two of our crew volunteered to travel over land to the ship and return to us with additional provisions. They did so; and soon after Hans, with a note from Captain Buddington, appeared at our encampment, and returned to the ship with Dr. Bessels. Captain Buddington's note requested our presence at the vessel, and ordered Messrs. Chester and Tyson to return to the ship with boats and crew. In answer, Hans took a note to Captain Buddington, wherein Mr. Chester stated that at present the ice would not permit a return of the boats. A few days later our two men returned with provisions, stating that the vessel had broken out in June, was very leaky, and that Captain Buddington wanted our presence, so as to enable him to pump the vessel by hand. They also related that Captain Buddington had made several fruitless attempts to take the Polaris up to Newman's Bay for the relief of the boats, and that the vessel was under anchor at Thank God Harbor. At these tidings Captain Tyson, with the assistance of the two boat's companies, excepting Mr. Chester, who staid with our boat, dragged his boat and provisions to the southwest shore of the bay and secured it on low land, surrounded by hills and the mouth of a deep and serpentine ravine, at this season a torrent, which I think is identical with the river mentioned in Captain Hall's dispatch. Captain Tyson and his boat's crew returned to the vessel overland, while Mr. Chester and company staid, waiting for an opportunity to go either north or south in the boat.

About the middle of July a heavy southwest gale set in, and if we had not departed from our encampment before the high wind increased to a gale we undoubtedly would have been crushed. Mr. Chester, with the boat and crew, at once started for shore. I shall never forget that day; I thought it the hardest of my life until later on our ice-drift. The canvas-boat, mounted on runners, we would pull against the storm, which was strong enough to lift boat and all, and in spite of our exertions to the contrary would carry us backward with the boat. We took the boat apart, so as to offer less surface to the wind; we partly unloaded the sleigh by depositing our clothes-bags and some provisions on the ice; but before we succeeded in reaching shore the bay-ice broke up, and we had to continue our work over drifting pieces and wide cracks of water. Finally we got the boat close to shore, and all hands returned in search of the stores deposited on the ice. By partly swimming across cracks we succeeded in finding the deposit, and loading ourselves with some fifty to seventy-five pounds each, returned in the same manner, arriving safely on shore, while the boat remained on the ice. We hardly had set foot on shore, at Captain Tyson's depot, when the gale increased still more, the ice left shore altogether, and a removal of the boat to shore was impossible. We erected the tent belonging to Captain Tyson's party, but shortly after it blew down, and we sought shelter in the boat of Captain Tyson. Even with the heavy load of provisions, clothing, instruments, and six men, the boat would be lifted up by the wind, and rolling on the beach, knocking against rocks, so as to break her skin in several places. We therefore capsized her, and putting a sail over her loaded her down with heavy stones, and passed the night without protection against the fearful gale. Two days later we all returned overland to the vessel, with the exception of one man, and Mr. Chester, who staid with the intention of bringing the canvas-boat back to shore as soon as the ice would return to the beach. When I started for the vessel the hills were bare of snow, with the exception of small ice-patches in the shaded corners of ravines; but when about half way, a snow-storm set nd compelled me to take up night quarters in the lee of a small rock. Next morn- it cleared up, and I readily found my way to the Polaris. The vessel was fastened heavy piece of ice; had, during my absence, narrowly escaped from being crushed 'rovidence Iceberg falling in; had been aground a number of times, pressed up by ice, and was said to be in a very leaky condition.

ptain Buddington intended to direct the vessel south as soon as a lead would occur. took place on the 12th of August; the same day little Francis Polaris, son of Hans stian, was born on board the vessel. The Polaris steered west, working through ice, then rounding heavy pack to the north she entered a lead which permitted o keep at full speed until next morning, when she brought up against a barrier of n Kennedy Channel, to the north of the small island on the west coast, in about ude 80° 40′ north. Having drifted past the small island, we from 10 p. m. August 6 a. m. August 14 pressed through heavy pack. At 12 m. of the latter day we again ed, and making a good progress at full speed of steam we passed by what both Mr. on and Hans declared to be Cape Constitution, in about latitude 80° 27′. Cape titution exhibits a peculiar form, and will serve as a landmark not easily forgotten by the poorest memory, and I am convinced that Mr. Morton and Hans are per- sure that what they declared to be Cape Constitution, really is the place named Dr. Kane.

midnight, August 14–15, fog set in and we fastened to a floe, which proved a bar r further progress. Until August 26 we drifted with the same floe, more or less , then steamed a short distance to northwest and fastened to another heavy floe, h, with the vessel, drifted south until October 9, when we found ourselves opposite Bay, about ten miles from shore. Drifting west and south, we entered Smith t and soon passed by Cape Alexander.

tober 14 was a thick, gloomy day, and on the afternoon of October 15 a heavy and southeast gale set in, which proved disastrous to the greatest part of the At about 5 p. m. it was reported to Captain Buddington that the ice at the oard was setting off; all of us at once went on deck, found matters as stated by an on watch, and saw two icebergs, which evidently had caused the separation ice; large floes passed by, the ship laboring under heavy pressure, so much so make her crack and tremble. Captain Buddington gave orders to heave out on the provisions, clothing, and valuable papers, constantly kept in readiness on deck. at time the vessel was raised to at least six feet from her water-mark.

t of the crew, Captain Tyson in charge, went out on the ice to collect the and carry them to a stronger part of the floe. Working on board, hard and , I finally left the vessel on the stern-line, intending to secure a bundle of books, had fallen close to the floe's edge, and then return to the ship; but while ng this bundle to a safe place, the ice broke up, the stern-line parted, the bow r slipped off the ice-anchor, and the vessel drifted off. Command to pull the over to the remainder of the floe was given, and when accomplished every- picked up whatever he could lay hands on. I jumped back to one of the small , endeavoring to find the box containing my papers, but without success, and I could return water intervened between me and the large floe. Seeing the close by, two others and myself entered the same, and with a kiak-paddle pro- the scow across the crack to the boats. Voices, coming from other small ice were heard, and the scow sent to the relief of those parties; but having shipped t amount of water the scow sunk close by the men she was to relieve, her crew vly escaping to the ice. One of the boats finally succeeded in collecting all hands n the ice upon the large floe. The gale still continued, snow drifted at a furious nd darkness inclosed us; the floe continued breaking up at the edge, and a con- removal of our stores was found necessary. We worked hard and steady until when, exhausted, we lay down on the ice, amidst the drifting snow and ex- o the fearful tempest. The papers, which had left my possession, consisted of lowing:

ivate letters and documents.

ecord of meteorological observations, reduced and corrected.

ook of comparisons, for the correction and verification of meteorological instru- and observations.

ble of relative humidity and dew-point for indications of the wet bulb, between —50°.

story of the expedition, in journal form.

eteorological journal, containing a detailed record of occasional observations rt discussions of marked meteorological phenomena.

tronomical and geodetical observations, including surveys of all land discovered rected.

servations on magnetic declination at numerous localities.

servations on horizontal intensity of magnetism at Thank God Harbor by the- magnetometer.

otanical collection of plants between latitude 81° 26′ and 82° 07′ N.

11. Topographical map of Thank God Harbor and Polaris Bay, secured in a tin cylinder.

The morning following our disaster we found our floe wedged in between an iceberg and Northumberland Island and water apparently leading to the island. We made two attempts to reach the island, but in both cases ice intervened. The last attempt was made after we had seen the Polaris rounding Cape Robeson, directing her course to Northumberland Island, and finally disappearing behind the same, without coming to our relief. At this second and last attempt we even had to abandon one of the boats at the opposite edge of the floe, and return to the other boat and provisions.

While on her way from Cape Robeson to Northumberland Island the Polaris once stopped, perhaps engaged in picking up provisions and the papers of Mr. Bryan and those belonging to me. After our second attempt to reach shore a heavy northeast gale set in, and next morning we found ourselves in the middle of the strait and on a small piece of ice which had broken off the large floe. With the large floe we lost the second boat, some provisions therein, a large canvas hut erected previous to our separation from the vessel, and six bags of bread stored in the hut. When the gale abated an inventory of the stores was taken and found as follows: several bags of clothing; several musk-ox skins; thirteen cases of pemican; fourteen hams; some canned meat; a small bag of chocolate; an A tent; instruments and a chronometer.

During the first two weeks of our stay on the ice, while drifting between Northumberland and Wolstenholm Islands, we built snow-huts and lived on seal-meat. Seeing that we might possibly exist during the entire winter even without fire and sufficient food, I ever afterwards nourished the hope of safely arriving at some port of Greenland during the following spring or summer.

The company laboring under such trying circumstances consisted of the following: Captain Tyson, assistant navigator, &c.; Fred. Meyer, meteorologist, &c.; John Heron, steward; William Jackson, cook; E. W. C. Kruger, Fred. Jamka, William Lindeman, Fred. Anting, Gustavus Linguist, Peter Johnson, seamen; Joe Eberby, Hannah, his wife, Punny, his child, Hans Christian and his wife, Augustine, Tobias, Succi, and Francis Polaris, his children, Esquimaux; in all nineteen human beings.

On October 23, while close to Wolstenholm Island, our large floe was sighted, and at once all hands, accompanied by the dogs, went over to the same on the young ice. In the course of a few days we succeeded in bringing across to our encampment the second boat and provisions therein—six bags of bread, canvas and wood forming the large hut.

On the 28th of October the sun departed to his winter rest, leaving us to the mercy of the dark, dreary winter night. During the month of October the natives succeeded in shooting three seals. On November 1st an attempt was made to reach shore at Dalrymple Island, but we only succeeded to arrive, with boats, provisions, and one kiak, at the large floe, while on October 2 we drifted out off Wolstenholm Sound, and on October 10 we had passed the Carey Islands.

We settled down on the large floe, built snow-huts, and lived on bread and pemican; in all twelve ounces per day, which was warmed with a quart of water on a wood-fire—for firing material we cut up one boat—was issued to us in two meals; the natives, whenever the weather would permit, went out hunting. During the month of November they killed five seals. Heavy winds prevailed, and we often were entirely blockaded with banks of drifted snow. On the 30th of November we sighted land, extending south from Lancaster Sound.

The month of December was mild, and we drifted so rapidly south that on December 21 we had light sufficient to read print during four hours of midday, and on December 7 I approximately determined latitude and longitude by λ. Cassiopeia to 74° 04′ north, 67° 53′ west; several bears and bear-tracks were seen, two white foxes and one seal killed; but in general we lived on the usual allowance of twelve ounces of bread and pemican, warmed up. In order to enable us to issue our provisions by weight, I previously had constructed a scale, by connecting a fine, three-cornered scale (rule) with a lever balance, taken from a broken aneroid, and attaching to the ends of the scale on cords two pasteboard boxes of equal weight; the weights I formed of chamois-skin and shot, taking as unit the weight of the meat contained in a one-pound can, and successively dividing it into half-pounds, four ounces, two ounces, and ounces.

On December 30 we sighted the west coast at a considerable distance. Approximate latitudes and longitudes were determined on January 6 by Polaris and λ. Cassiopeia to 72° 09′ north, 60° 41′ west. On January 20, by the same stars, to 70° 02′ north, 60° 01′ west. On January 27, by the same stars and the sun, to 69° 32′ north, 60° 03′ west. On the 19th of January the sun was seen above the horizon during the course of two hours, and very likely had been out the day previous, but obscure to our sight by an iceberg bearing south.

On the 5th of January we had used up one boat, and from that time we warmed our meals on an Esquimaux lamp. January was stormy and cold; during this month we drifted very rapidly, and shot five seals. On February 5 I approximately determined, by the sun, our latitude to be 68° 50′, and on February 19 Cape Walsingham nd neighboring land was in sight; preparations for an attempt to reach land were ade, but this plan finally was abandoned, and a reduction of our daily ration to seven unces found necessary, so that our provisions might hold out until the first of April. ebruary was mild but very stormy; during this month we drifted rapidly; six seals nd a great number of dovekies were shot; unicorn, bears, and bear-tracks seen. March as stormy and changeable in temperature; during this month a great number of seals, ome dovekies, and one bear were shot, and a number of unicorns seen. We lived in a tate of continual anxiety, the ice around us broke up, our floe parted into small pieces ntil we were confined to a space of about twenty yards in diameter; many nights we ared not sleep, fearing the ice would break under our feet and we would find our grave n the Arctic Sea.

Finally, on the 31st of March, our encampment became wasted out to such an extent hat, on the 1st of April, we took the water, in the boat, endeavoring to penetrate the ack, where we expected to find protection against sea and weather. On the 12th of arch we were in latitude 64° 32′ north; on the 13th in 64° 19′ north; on the 17th in 3° 47′ north; on the 22d in 62° 56′ north, and on the 31st in 59° 41′ north; we sighted o land during this month. From April 1 to April 4, inclusive, we at times had leads f water to south and southwest, which permitted us to proceed by oar and sail several iles each day; but April 5 to 20 we staid on one and the same piece of ice, surrounded y pack, and laboring under heavy-sea swell, which caused us much anxiety. Fre-uently we dared not sleep, for fear the ice would break under our feet, or the sea wash s off the ice. Several times the ice broke close to the boat and tent, and once nder the tent, while all of us were inside of it eating breakfast. At another time, hile half of us watched and the other half slept, the ice broke between the boat and nt, and the general outcry was to stay with the boat; but on looking around I found yself alone with the boat, all others having staid with the tent and provisions. I et the kiak adrift; but it drifted in a direction opposite to where my comrades were. endeavored to push the boat, which was heavily loaded, off the piece of ice; but before I ucceeded the two natives, propelling a small piece of ice by a paddle, approached me. I hrew out a line, and pulled them up to me. We, all three, succeeded in getting the oat off, but I had the misfortune to go with it and fall in the water. Only a short istance from where we had started the boat got beset by pack-ice; after three hours' ard work we succeeded in pulling up the boat on a piece of ice half of her size. There e staid all night, and I, being wet through, was never before so near freezing to death; ost my breath for some time, but finally restored circulation of blood by a rapid motion f hands and feet. At daylight we saw our comrades and tent about half a mile off. Cap-ain Tyson and some of the crew came over to us on the pack-ice, and working all together e dragged the boat back to the tent; the kiak was found a short distance from the nt and also saved.

In the night from the 19th to the 20th of April we were washed out of the tent, which as lost, and we had to cling tightly to the boat during the entire night, or it would ave been washed off the ice, which actually took place, in carrying boat and men hang-ng to it from one side of the piece to the other, while ice-blocks three feet square pelted gainst the boat and our legs. At last we launched the boat and arrived safely on a lain but smaller piece of ice, which did not labor much under the heavy sea. On this iece the pack-ice again closed around us, and on April 22 our provisions consisted of nly ten biscuits. Starvation was before the door. Then Providence directed a bear to ur encampment, and, while all others hid themselves, Joe and Hans from behind a ummock shot the bear. We then crossed over the pack-ice to the place where the ear breathed his last, fastened a line to him and pulled him to our encampment. From his time until finally relieved by the Tigress we had an abundance of meat, which we enerally ate raw.

From April 25 to April 30 we had more or less opportunities to proceed by boat, but hen on the ice, the sea washing over it, we were compelled to sleep in turns of half ur number.

On April 28, while proceeding in the water, we saw a steamer crossing our course at ome distance. The flag was immediately hoisted, but at dark the vessel was out of ight. Next day we again saw a steamer, launched the boat and proceeded by oar ntil we arrived at a barrier of heavy pack, when we pulled up on a cake of ice, set ignals for the steamer and fired shots. Four shots fired from the steamer were heard y us, and taken as answer to our signal-shots; but herein we were mistaken. Toward vening the vessel was lost out of sight. The morning of April 30 was thick and foggy. aptain Tyson, myself, the steward, cook, and natives slept in turn from 12 m. to 5 a. ., when we were roused by the watch to take their place; but before we had shaken ff all drowsiness somebody cried out: "Here is a steamer close by." We all cleared he boat just in time to see the fog throwing his dark veil over the vessel so patiently oped for. Then Hans had the admirable idea of taking to the kiak and apprising the essel of our presence. The flag was hoisted, shots fired, and all hands hailed the ves-el at the highest pitch of their voices. I am unable to describe the sensation of relief hen I saw the steamer come to our encampment. All of us were taken on board the igress and treated hospitably.

April was mild but more or less stormy. During this month I have recorded a number of approximate determinations of latitude: On April 4, 56° 47′ north; April 9 55° 51′ north; April 12, 55° 35′ north; April 13, 55° 23′ north; April 14, 55° 13′ north April 15, 54° 58′ north; April 17, 54° 27′ north; April 21, 53° 57′ north; April 26, 53° 30′ north; April 28, 53° 04′ north. The Tigress, a sealing-steamer, pursued her voyag during the next ten days. She then took us to Bay Roberts, and from there to Sain John's. At Saint John's we remained two weeks, when the Frolic, United State man-of-war, arrived, and returned with us to Washington.

II.—SCIENTIFIC OPERATIONS OF THE EXPEDITION.

1.—ASTRONOMICAL AND GEODETICAL OBSERVATIONS.

The Bureau of Navigation had provided the expedition with six chronometers, three sidereal ones, and three solar mean time. A daily comparison, made at six hours Greenwich mean time, showed that their relative differences generally kept increasing, according t their primary rate. All comparisons with their first and second differences were recorded in a book which, under charge of Mr. Bryan, would be found among his papers. The chronometers were known by letters as "A, B, C, D, E, and Z," and Z was selected a standard; they were in a gimbal box, which again set in a cushioned box, and were three together inclosed in two wooden, cushioned boxes, which, fastened to the cabin-floor, set around the mast, but detached therefrom. Observing some of them on journeys while in charge, I gained some valuable experience. When, in June, 1872, whil on a journey to the north, the boat was crushed in the ice, I succeeded in saving chronometer "D." When gotten from the boat, the outside box was completely crushed, and still, when compared with a hack-watch, the chronometer had kept its rate remarkably well. "D," then, was carried overland to the vessel, and forgotten to be locked a comparison at its arrival showed a loss of nearly thirty minutes. Taken out again i the canvas-boat, our long stay on the bay-ice of Newman's Bay gave me an opportunity to ascertain the rate of "D" by observations on the prime vertical. In this manner I found that although "D" had a larger daily loss on the ice than on board, this daily loss would remain the same while on the ice. When finally compelled to return t shore during a southwest gale, "D" was left on a piece of ice, and during the entire storm exposed to the action of the waves, so that, when gotten the next day, the chronometer was found reversed; but compared with a hack-watch, the chronometer showed to have preserved its ice-rate.

A.—*Astronomical observations at winter-quarters.*

Preliminary observations, with sextant and artificial horizon, for latitude and time were made on shore of Thank God Harbor the day following our arrival by Captain Hall, Mr. Bryan, and myself; carefully computed, and using the primary rate of our chronometers, the position was found to be 81° 38′ north, 61° 44′ west—seconds I cannot recall.

During the winter, observations for latitude were made upon stars, both north and south of the zenith, with sextant and artificial horizon, whenever the weather permitted to do so. After the sun's rise in spring a great number of equal altitudes near its prime vertical and of meridian altitudes, both upper and lower culmination, were taken with sextant and artificial horizon, as also with the theodolite. A great number of the moon's altitudes were taken whenever this satellite was visible. The transit instrument was set up at the observatory (see pl. I. T.,) on a stout piece of plank, which rested on two trestles, their legs being sunk into the ground and frozen tight, and passing through the floor without touching it. All constants were not known, but easily found, with the exception of the division value of the level, which finally was determined in the following manner:

I. The height of a great number of threads of the screw, acting vertically upon the rotation axis, was measured, and thereby the height of one thread found.

II. The length of the level measured.

III. The inclination of the level, corresponding to the height of one thread, found by—

$l \sin x = h.$

$l =$ length of level.

$h =$ height of one thread of the screw.

$x =$ angular value of level inclination corresponding to h.

IV. Division value of level determined by finding the number of turns of the screw corresponding to one division of the level.

The instrument, once set up in close approximation to the meridian, remained stationary, but the azimuth correction was observed for at the beginning and close of each set of observations by transits of stars of twelve hours' difference in right ascension, one circumpolar and one equatorial. A great number of level-readings (reversals) were taken before and after each set of observations; but frequently the difficulty arose that the

le could not be made sufficiently small. Transits were timed by sidereal chronom-
'A," which constantly remained at the observatory, fastened in a box to the
it-stand; a meridian mark was not established. Moon transits were observed at
ccasions; also several occultations are on record. A great number of lunar dis-
s, especially such measured from the sun, were taken. The index error of a sextant
rally had to be determined before and after each set of observations, as great
larities, caused by change of temperature, were observed. The repeating circle
sed at times, but very seldom.

B.—*Astronomical observations on sea and in ports of Greenland.*

ween New London and Saint John's a great number of sun's altitudes were
red by Captain Hall for latitude and longitude. At Saint John's one of the chro-
er-watches was compared with a chronometer which had been rated shortly
, and this comparison recorded. Between Saint John's and Fiskenaes a great
er of determinations of latitude and longitude by sun's altitudes were made by
in Hall and myself, as also between Fiskenaes and Holsteinborg. At Holstein-
wo sets of observations for longitude, by sextant and artificial horizon, were
ed by Captain Hall and myself. All four sets when computed resulted in one
he same longitude within one second of arc. Captain Hall also obtained an
ation for the latitude of Holsteinborg. Observations for latitudes and longi-
between Holsteinborg and Godhavn are recorded, and at Godhavn Captain Hall
ed several sets for both latitude and longitude. At Upernavik observations
extant and artificial horizon were made by Mr. Bryan and myself. Altitudes on
eridian and about four hours from the meridian were selected. At Tessiusak
n Hall, Mr. Bryan, and myself made determinations for latitude and longitude.
en Tessiusak and Thank God Harbor a great number of sun's altitudes, for the
ination of latitudes and longitudes, were made. The last observation on sea
ade for latitude by all persons capable, and for longitude by Captain Hall and
; the result I think was 81° 24′ north, 64° 35′ west. Between Thank God Har-
d Northumberland Island a great number of observations on latitude and longi-
vith sextant and artificial horizon, were made by Mr. Bryan and myself. Those
y me while drifting in Smith Sound are now in my possession, and, together
earings of headlands, appended in Paper I; they generally are taken on the
ertical, so that latitude and longitude deduced therefrom refer to one and the
osition. In Paper I, I give resulting latitudes and longitudes, having applied
nary correction and rate of chronometer "Z" from memory.

—*Astronomical and geodetical observations, forming a series of systematic surveys.*

k God Harbor and Polaris Bay were surveyed by me in September, 1871, with
odolite and plane-table. The plane-table was constructed under my supervision
Shuman, first engineer, in the following manner:
drawing-board was mounted upon the tripod, sent with the dip-circle, by a
lamp-screw.
ne round level of a chemical scale was detached therefrom, to be used in level-
plane-table.
round compass was sunk into a four-cornered elongated box, so that a line
ing N and S of the graduated arc would be parallel with the side of the box.
he telescope sent for observations of pendulum transits was mounted upon a
le, so that when placed upon a horizontal plane the telescope-axis would be
and in a vertical plane with one edge of the rule.
the commencement of operations with the plane-table, I obtained the co-or-
of three marked field-points by using chain and theodolite. All points are re-
the position "Observatory." I then entered upon the plane-table the three
entioned above, and point "Observatory," where I took my first station. The
eled and brought into parallelism with the field, a line marked "N" and par-
h the connection of N and S of the graduated arc of the compass-box and the
of the needle, was drawn, as also sight-lines to all points desirable to be taken
survey. The second station was taken three or four miles from the first, the
eled, the box-compass applied to line marked "N," and the table brought into
nate parallelism with the field. Then cutting in backward, a small triangle
obtained in place of the correct station-point. This station-point had to be
the right or to the left of all sight-lines forming the triangle, and its distances
se sight-lines had to be in proportion with its distances from the field-points
in forming the triangle, therefore a simple geometrical construction would
ne correct station-point, when the table could be brought accurately into par-
vith the field; sight-lines to all points, taken in at the first station, would be
c.
verification of this plane-table survey, I determined a point "D" twelve

miles from observatory, with the theodolite and chain, and found a sensible agreement of its determination by theodolite with that by the plane-table.

As soon as the survey of Thank God Harbor and Polaris Bay was completed, I drew an elaborate topographical map of the same before the disappearance of the sun.

During the spring and summer of 1872, I made surveys of the east side of the channel from latitude 80° 27′ north to 82° 21′ north; of the west side of the channel from latitude 80° 15′ north to about 84° north; of the interior, between Newman's Bay and Polaris Bay, of Newman's Bay, and to some extent of the interior northeast of Newman's Bay. All these surveys were executed by taking up a great number of stations at Polaris Bay, Newman's Bay, and intermediate points, determining their latitude, longitude, and magnetic declination by theodolite, and taking magnetic bearings to all points desirable to be taken in by the survey. In this manner between 300 and 400 points were determined and known by numbers. Sketches of coast-lines and hill-ranges, to serve as a basis for the detail of a topographical map, were also made. When, while going north, our boat was crushed in the ice, I lost the theodolite, and ever afterwards I took the bearings with a large azimuth circle, taken off a large prismatic compass. This azimuth circle, supplied with a vernier and sight-vanes, I mounted upon a tripod, and leveled it with a round level. Determinations of latitudes and longitudes had to be made with sextant and artificial horizon; for determination of magnetic declination, a prismatic compass was employed. In July, 1872, I visited the north side of Repulse Harbor, made observations for latitude and longitude with pocket-sextant, using sea-horizon, and measuring the elevation by aneroid. I then saw the west side of the channel bending to the south of west in about latitude 84° north, and the east side of the channel to the south of east in about latitude 82° 21′.

Repulse Harbor's latitude is about 82° 09′ north; its longitude between 58° and 59° west. The Southern Fjiord was to some extent surveyed by Mr. Bryan in the spring of 1872; its head has not been seen; and, when passing its entrance in the fall of 1872, on our route home, I was impressed that the Southern Fjiord was a channel in reality, and perhaps connected with "Emperor Joseph's Fjiord" of the German expedition. "Lady Franklin's Bay" also appears to be the junction of two channels separated by an island. While on our home route Cape Constitution was recognized by Mr. Morton and Hans. Observations made in its vicinity proved its latitude to be about 80° 27′ north. While drifting through Smith's Sound, a great number of astronomical observations, in connection with bearings to headlands, were made by Mr. Bryan and myself; those made by me are now in my possession, and appended in Paper I. On our voyage north, as well as our voyage south, it generally was felt that the west side of the channel, as laid down in Dr. Hayes's map, needed considerable alteration; not in the detail of the map, but in latitudes, longitudes, and general direction of coast line. Kennedy Channel at parts is very narrow, especially in the vicinity of Cape Constitution, where its width hardly exceeds from fifteen to twenty miles. Carl Ritter Bay, on Dr. Hayes's map, the northern extremity of Kennedy Channel, really is the southern extremity; the two sides of Kennedy Channel consist of land, which is mapped neither by Dr. Kane nor Dr. Hayes; the direction of "Humboldt Glacier," very likely, is not north and south, but northeast and southwest, &c. In plan (II.) I append a diagram of Smith's Sound, Kennedy Channel, Polaris Bay, Robeson Channel, and of the west coast to about latitude 84°. All records of astronomical and geodetical observations would be found partly among Mr. Bryan's and partly among my own papers. During the winter of 1871 to 1872, I constructed the ship's track between New London, latitude 82° 16′, and Thank God Harbor. The Polaris before she started had not been swung and her compass deviation therefore was unknown.

As from St. John's to latitude 82° 16′ our mean course was north, I approximately determined the deviation by merely computing the position in which the log, without the use of any deviation, would locate Fiskenaes at; the angular value of distance, "computed position and real position of Fiskenaes," with radius equal to distance. "St. John's and Fiskenaes" furnished the deviation which in proceeding north I varied proportionally to the tangent of the magnetic inclination. The limits of sea-currents I could very well determine by the change of surface sea-temperature, and by the combination of all meteorological instruments motion. It is very interesting that the state of atmosphere over the Labrador current, between Newfoundland and St. John's, as indicated by the combination of all meteorological instruments, is so marked and peculiar that I afterwards was enabled, without using the sea-thermometer, to exactly know when we entered the Labrador current between St. John's and Greenland, when we arrived at its center line, and when at its northern limit. In a similar manner I had all other currents indicated, compass deviation and limits of currents determined; the velocity of currents was found by dead-reckoning; astronomical observations made at latitude 81° 24′ north; longitude 64° 35′ west, and Thank God Harbor served as verification.

2.—MAGNETIC OBSERVATIONS.

A.—Differential observations, for the determination of diurnal variation of magnetic declination, were made at the observatory of Thank God Harbor. The theodolite magnetometer was used therefore in the snow-hut "M," (pl. I,) upon a stout wooden stand, which was solidly frozen into the ground; a thermometer was suspended from the stand. When first the instrument was set up, and the line of detorsion brought in coincidence with the magnetic meridian, it remained undisturbed during the course of four or five months, when hourly readings were taken by Dr. Bessels, Mr. Bryan, and myself, besides readings, at five minutes interval, on term days, prescribed by "Ridell, &c." During these observations the collimator magnet was suspended in a stirrup, constructed by Mr. Shuman, the original stirrup having been lost when the gale of November 22 blew down the snow-hut; only a single fiber was used during these experiments. The disturbances were large and frequent; and therefore the record of differential observations consists of scale readings, azimuth-circle readings, and thermometric readings, and is kept in one book, which will be found among Mr. Bryan's papers.

B.—Observations on absolute magnetic declination were made by Captain Hall at Godhavn and Thank God Harbor by prismatic compass, sextant, and artificial horizon. Captain Hall also recorded a great number of the sun's bearings with the course of the vessel while between Tessiusak and Thank God Harbor. Mr. Bryan made determinations of absolute declination at Thank God Harbor by theodolite magnetometer, and small theodolite, and, while drifting in Smith's Sound, by prismatic compass, sextant, and artificial horizon. His determination at winter-quarters with the theodolite magnetometer was made by reference to two very marked field-points, to which he had measured a great number of solar bearings. I made determinations of absolute declination by either small theodolite or prismatic compass, sextant, and artificial horizon, at Thank God Harbor, Polaris, and Newman's Bay, as also at a great number of intermediate points. While drifting in Smith's Sound I determined the declination at all times when recording magnetic bearing of marked headlands. Captain Hall's observations on magnetic declination are among his papers, and undoubtedly on board the Polaris. Mr. Bryan's determinations were in his box thrown on the ice, and are probably now on board the Polaris. Determinations made by me were in my box, and may also be found on board the vessel. The observations made while drifting in Smith's Sound are now in my possession, and will be found appended in Paper I. Declination at Thank God Harbor was about 96° west. Mr. Charles A. Schott, before the expedition started, prepared a map exhibiting the isogonic lines in the vicinity of the north pole, and I cannot but state that Mr. Schott's isogonic lines almost entirely coincided with those based upon our observations.

C.—Observations on relative magnetic intensity were made repeatedly at Thank God Harbor by Mr. Bryan, and will be found among his papers.

Observations on absolute, magnetic, horizontal intensity were made by me in the spring of 1872, at Thank God Harbor, and consist of—

Several sets observations on the zero divisions of collimator magnet and week magnet.

Several sets of vibrations with and without ring-weight.

Of the exact weight of the ring, found with a very sensitive chemical scale, and its dimensions.

Several sets of deflections at two distances.

A determination of the scale value of the collimator magnet.

All sets of vibrations are accompanied by observations on the co-efficient of torsion. These observations extend over the period of about eight days or longer, and their record will be found among my papers. During these observations the magnet, then in the original stirrup, which had been recovered in spring, was suspended on three fibers.

D.—Observations on magnetic inclination were made by Mr. Bryan with the dip-circle at Tessiusak, Thank God Harbor, and Southern Fjiord. At Thank God Harbor the inclination was determined very frequently, and all observations were recorded by Mr. Bryan, among whose papers they will be found.

3.—OBSERVATIONS ON THE FORCE OF GRAVITY.

During our stay at winter-quarters the pendulum was swung on the same knife-edges as previously at Cambridge and Port Foulke. Transits of the lower knife-edge over the vertical hair of a telescope, set at a distance of about twelve feet in coincidence with the zero of the graduated arc, were observed by Mr. Bryan and myself, relieving each other, while Dr. Bessels timed the signals given by the observers of the transits. The azimuth of the plane of vibration was nearly north and south; the box of the pendulum apparatus, placed at P (pl. I,) rested upon heavy planks, which were frozen into the ground; it was carefully detached from the floor and wall of the observatory, and supported by three steel braces, one in the back and one on each side. The plane supporting the knife-edge was kept carefully leveled; the semi-arcs, counted from the middle either way, frequently recorded, as also the readings of two thermometers, placed respectively at heights of the lower and upper knife-edges. Times of transits were marked by sidereal chronometer "A," whose rate was observed for, before and after these pendulum experiments, by Mr. Bryan. All four faces wer swung in strict compliance with the manuscript instructions prepared by Mr. Charle A. Schott. The readings of barometer are furnished by the meteorological record.

The record of our pendulum observations when completed was placed in the hand of Dr. Bessels, and undoubtedly is now on board of the Polaris; the pendulum itsel will also be found at the vessel.

4.—OBSERVATIONS ON OCEAN PHYSICS.

A.—*Observation on depth.*

Soundings were made in latitude 81° 24′ north, longitude 64° 35′ west, and at a grea number of positions in Smith's Sound. The record of two soundings in Smith's Soun is now in my possession, and, together with bearings of the positions to known head lands, appended in Paper I. The record of all other soundings is among Dr. Bessels' papers.

B.—*Examination of sea-bottom, procured by either dredges or soundings.*

Dredges were made at St. John's, and surface-dredges on the greatest part of ou route between Tessiusak and Thank God Harbor.

Sea-bottom was taken up with each sounding. All dredges and portions of se bottom were examined by Dr. Bessels; the results of these examinations are recorde among his papers.

C.—*Observations on sea-temperature.*

Surface sea-temperature was observed by Dr. Bessels and myself between New London, latitude 82° 16′ north, and Thank God Harbor, as also, while returning, betwee Thank God Harbor and Northumberland Island, at most times hourly, but sometime every three hours. They are very interesting and instructive in defining current Sea-temperatures at the bottom and intermediate points were recorded whenever a opportunity was offered to observe them.

The Miller-Casella's deep-sea thermometer proved useless when exposed to the colde waters and climate, the transparent liquid contracting disproportionately. All observations on sea-temperature are recorded, together with the systematic meteorological observations, and are among my papers; Dr. Bessels has an extract of sea-temperatur observations.

D.—Observations on the density of sea-water simultaneous with observations on sea temperature by hydrometrical measurements were made by Dr. Bessels and mysel Dr. Bessels also had a number of sealed bottles filled with sea-water of different localities and intended for chemical analysis.

E.—*Observations on currents.*

As I have stated above, the observations on currents were not directly made, bu indirectly, by observations of sea-temperature and meteorological observations; th velocity of currents could be deduced from the log. Along the coast of Greenland, a the season of July and August, observations on sea-temperature give very interestin indications. The sea-thermometer gives proof of a continual variation of surface sea temperature, nearly equidistant from the temperature of maximum density of salt water. Per example: at one locality we find the temperature +43°; not far from i we find it +35°; this shows that surface and under currents are intermingling, cause by their almost equal specific gravity.

Crossing Smith's Sound, and getting within the vicinity of the west coast, we me a cold current, directed to the southwest, which, higher up in Kennedy Channel Polaris Bay, and Robeson Channel, was noticed to take up the entire width of th straits. The direction of this current was beautifully illustrated by a line of iceberg seen in Smith's Sound, bearing northeast and southwest. The velocity of the curren I computed from the log, making use of our observations of latitude 81° 24′ north 64° 35′ west, and found it to be nine miles per day. This was afterwards verified b the computed distance between the position the vessel got beset in and the positio she broke out at, giving thirty-six miles for a four day's drift. The position she go beset in depended upon the observations of latitude 81° 24′ north, longitude 64° 3 west, and the log; the position she broke out at depended upon Thank God Harbo and the log.

F.—Tidal observations were made at Thank God Harbor by some of the seame with a tide-guage, constructed on Dr. Hayes's plan. These observations extend over th entire winter, from September, 1871, to June, 1872, are made at times every ten minute or half-hourly, or hourly, and their record is among Dr. Bessels's papers.

The rise and fall of the tide is small; the age of the tide nearly twenty-four hour

5.—METEOROLOGICAL OBSERVATIONS.

A.—*Observations on atmospheric pressure.*

uring the voyage from New London to Thank God Harbor, observations were made
ry three hours with a marine barometer and an aneroid; both instruments were
t compared with Green's standard barometer, No. 739 (?); the indications of the
ometer were very marked over every branch of a cold current, as also their gradual
rease and decrease in approaching or distancing the parallel of maximum pressure.
instruments were kept in a shelter, fastened to the port side of the wheel-house,
their indications corrected for temperature, elevation, and instrumental error. At
ter-quarters observations on atmospheric pressure were made hourly at the observ-
y with Green's standard barometer, No. 739 (?), and were corrected for tempera-
, elevation, and instrumental error. The elevation above the mean level of the sea
termined in the fall, and again in the spring, by the theodolite, and I constructed,
aplace's formula, a table giving the correction for said elevation at temperatures
+50° to —50°. All the barometers in the possession of the expedition I kept care-
compared; it frequently was found necessary to clean the mercury of No. 739 (?);
ll such occasions comparisons were made before and after its cleaning.

e motion of the barometer-column was very marked, with northeast and south-
winds, being very fluctuating and generally high, but falling with a northeast
l, and very low, but rising with a southwest wind. These indications are very sig-
ant, and varying according to season. In the fall, when an immense quantity of
ture is precipitated from the higher regions in form of fogs, frost, smokes, snow, and
ation of fresh-water ice on the sea, the barometer is very low; the same in spring,
active evaporation of snow, ice, and water is going on. Between Thank God
or and Northumberland Island hourly observations were made and corrected. A
er of measurements of elevations by aneroid I made at and between Polaris and
nan's Bay. Before I left Washington I compared Green's No. 739 (?) with the bu-
standard and Naval Observatory barometer.

—Observations on temperature were made every three hours on our voyage north,
hour on our voyage south, and at winter-quarters.

er my separation from the vessel I made some notations of temperature, which
ppended in Paper II. On our voyage north the influence of cold sea-currents over
spheric temperature was especially marked. On several other journeys, it was al-
observed that ice will form on the salt-water whose temperature is below 32°, even
the atmospheric temperature is +40° and higher. This ice-formation is congealed
water, which partly melts off the surface of drifting ice and partly condenses
on from atmospheric moisture. At winter-quarters I operated very carefully, in
to get true observations of atmospheric temperature. As soon as practicable
our arrival at Thank God Harbor, I made at the observatory a long series of com-
ns, at different temperatures, of all thermometers on board. Green's thermome-
fter application of their correction, previously determined at Washington, agreed
t to the tenth of a degree; especially two mercurial thermometers, of which I
ed one as standard. Casella's thermometers showed more or less irregularities,
, I think, was caused by their being encased in wooden frames. A great number
rmometers were suspended in the shelter "5," pl. (1,) on a revolving drum of
-work. The temperature was noted always by the standard, but at the freezing
mercury all thermometers in the shelter were registered, corrected according to
us comparison, and the most probable temperature of the melting of mercury
ed. The melting-point of mercury, by repeated operations, as described above,
und —39°.8. One of Green's spirit-thermometers most correctly showed the
ature of melting of mercury by applying the correction found from previous
rison. This thermometer I selected for the notation of atmospheric temperature
melting of mercury. Very annoying, in regard to the observation of thermome-
as the almost continual snow-drift, which, besides burying the thermometers en-
almost blinded the observer. I am astounded how quick a tolerable observer,
nder such difficult circumstances, will acquire the routine of just bringing the
f a lantern to bear upon a thermometer, and reading it correctly to one-tenth
gree during the period of one second. At Thank God Harbor the highest tem-
e observed was between +40° and +50°; the lowest temperature, —58°, oc-
in January, but March was the coldest month.

e fall, with a northeast wind, the temperature would rise; with a southwest, it
fall. In spring a northeast wind would be preceded by high temperature, de-
g after the northeast wind had set in; a southwest wind in spring was preceded
temperature, rising after the wind's arrival. In winter a northeast wind pre-
y low temperature would produce a slow rise; a southwest wind preceded by
perature would produce a rapid rise of temperature.

Observations on winds were made every three hours on our voyage north, every
our voyage south, and at winter-quarters. The direction of winds on board of

the vessel was determined by comparing it with the compass and application of ma netic declination. The velocity of winds was found by the anemometer erected on th quarter-deck, port side, or the current meter whenever the former was obstructed Between St. John's and New London one cup of the anemometer was carried over board, and as I wished to reserve one anemometer for winter-quarters observations, continued the observation of the anemometer, running on three cups, and deduced tru velocities from its indications by the formula—

$$V_x = V \frac{4\,W}{3\,W_x}$$

which I constructed in the following manner:

Let

P represent the force of wind, in pounds, on a square foot.
L resistance of atmosphere upon one cup during one revolution.
R friction at spindle while in motion on four cups.
R′ friction at the spindle while in motion on three cups.
a area of the half-sphere, forming the concave slide of a cup.
b area of the base of the cup.

During one revolution of a cup, the direction of the wind forms with the base of th cup all consecutive values of angles, (from 0° to 360°,) and therefore the force exerte upon a square foot of the cup at any time is expressed by—

$$P \sin z$$

but during half a revolution the wind exerts its force upon *a*, and during the othe half upon *b*; expressing the differential of *z* by *d z*, and the entire force exerted by th wind upon one cup during one revolution is equal to—

$$\frac{P \int \sin z\, d z\ (0-180)}{d z} \cdot a + \frac{P \int \sin z\, d z\ (180-360)}{d z} \cdot b = \frac{2\,P\,(a-b)}{d z}$$

and upon four cups, equal to—

$$\frac{8\,P\,(a-b)}{d z}$$

this force is diminished by the resistance of atmosphere 4 L and friction R, and th total force in action becomes—

$$\frac{8\,P\,(a-b)}{d z} - (4\,L + R)$$

In a similar manner, the total force in action upon three cups is equal to—

$$\frac{6\,P\,(a-b)}{d z} - (3\,L + R')$$

But, according to the law of inertia, two forces are proportional to the masses the set in motion; and also to the velocities they communicate to said masses. Expressin the mass or weight of four cups, stems and center-piece by W_x; the weight of thre cups, stems and center-piece by W; the velocity of four cups, under pressure P, b V_x; the velocity of three cups, under pressure P, by *v*, we will have the equation—

$$\frac{\frac{8\,P\,(a-b)}{d z} - (4\,L + R)}{\frac{6\,P\,(a-b)}{d z} - (3\,L + R')} = \frac{W_x\, v_x}{W\, v}$$

transforming—

$$\frac{8\,P\,(a-b) - (4\,L + R)\,d z}{6\,P\,(a-b) - (3\,L + R')\,d z} = \frac{W_x\ v_x}{W\, v} \quad \text{or}$$

$$\frac{4}{3} = \frac{W_x\ v_x}{W v} \qquad \frac{v_x}{v} = \frac{4\,W}{3\,W_x}$$

considering that the velocities of the cups at any time are proportional to the indica tions of the anemometer, and if we express the indications of the anemometer whil running, respectively, on four and three cups, and under influence of pressure P, b V_x and V, we have—

$$\frac{V_x}{V} = \frac{v_x}{v} = \frac{4\,W}{3\,W\,x} \qquad V_x = V\,\frac{4\,W}{3\,W_x}$$

At winter-quarters the direction of the wind was determined by reference to marke field-points, whose true bearing was known accurately. The anemometer was erecte at about fifty yards from the observatory, free of obstruction; the velocity of wind was hourly determined, and the number of miles for the preceding hour noted also.

In cases of doubtful observations or very light winds, the current meter was besides brought into action. Anemometers were always kept in the best order; Mr. Sherman, 1st engineer, repaired the spindles several times by replacing the brass tops by steel tops. Frequent comparisons of anemometers and current meter were made. The principal direction of high winds and gales at Thank God Harbor was northeast in fall and spring, and northeast and southwest in winter; the entire winter was almost a continuation of heavy gales.

Northeast gales showed different features, and, as it appears, these characteristics were very marked, if I distinguish two classes of northeast gale:

1. Such as were the primary impulse of a violent commotion of atmosphere, inducing a southwest gale at an adjacent place.

2. Such as were induced by a southwest gale in action at an adjacent place.

It is evident that in the arctic regions, where sea channels and streaks of land follow in regular order, polar currents will always select their paths, either on land or on sea, in accordance with the greatest tension of atmosphere, dependent upon the season; they will induce a southwest wind, which, on the contrary, selects its path wherever the air is the most rarefied; a mutual displacement takes place, and two gales blow in opposite directions at adjacent places. This frequently was actually observed at Thank God Harbor and vicinity.

Here are the characteristics of the two classes of northeast gales:

When a primary impulse, a northeast wind was always preceded by high atmospheric pressure, low temperature, and almost entire absence of moisture; veerings at the commencement and close of the gale were in accordance with the law of gyration. During the gale the barometer would fall, the thermometer would rise, and relative humidity increase.

When a secondary action, a northeast wind was preceded by low atmospheric pressure, high temperature, and low relative humidity; veerings before and after the gale took place contrary to the law of gyration. During the gale the barometer would rise slowly, temperature would almost remain stationary, and relative humidity would increase rapidly.

Southwest gales also had two different characteristics:

1. Preceded by low barometer, high temperature, and relative humidity; veerings before and after the gale, in accordance with the law of gyration; rise of barometer, fall of thermometer, and stationary relative humidity during the gale.

2. Preceded by low atmospheric pressure, high temperature, and low relative humidity; veering before and after the gale, contrary to the law of gyration; rise of barometer, fall of thermometer, and rapid rise of relative humidity during the gale.

Velocities above forty miles per hour were very frequent; light and pleasant winds were observed from all points of true bearing.

After my separation from the vessel, I frequently noticed the direction of the wind, which notations I append, in Paper II.

D.—Observations on clouds were made at times of systematic observations; formations, similar to those known in our climates, were noted; strata were prevalent, and the cirrus cloud was seen in the region of cumuli.

E.—*Observations on precipitations, &c.*

Precipitations in form of heavy snow or rain were rare, but very frequent in the form of fog, frost, smoke, haziness, and light snow. It frequently was observed during the summer that when moisture was precipitated over an area consisting partly of land and partly of ice, it would take the form of rain on land, but the form of snow on the ice.

F.—Observations on ozone were made daily; no ozone was obtained on our voyage north; more or less ozone was noted at winter-quarters, and some on our voyage south. At winter-quarters, and during the winter, the greatest amount of ozone was observed with northeast winds, but especially with heavy snow-drifts. During the summer ozone was very abundant, and decreasing in the fall.

G.—*Observations on solar and terrestrial radiation.*

Readings of the vacuum black-bulb thermometer and the free black-bulb thermometer were taken hourly in 1872, while the sun was above the horizon.

These thermometers, after a rigorous comparison with the standard, I placed in a horizontal position on crutches, about half a foot above the ground, where I spread a piece of canvas, thickly covered with cotton wadding.

Observations on terrestrial radiation were made hourly, at Thank God Harbor, with a naked bulb spirit-thermometer, which, after comparison with the standard, I placed in a horizontal position on crutches, its bulb immersed in cotton wadding.

A naked bulb spirit-thermometer was placed in a horizontal position, its bulb in the focus of a silvered concave mirror, and frequently observed.

The vacuum solar radiation thermometer at times showed above + 100°.

The terrestrial radiation thermometer at times showed close to — 70°. Conden tion of moisture on instruments placed out-doors in form of beautiful crystals, (a besques,) took place quite frequently.

H.—*Observations on crystallization of snow.*

All snow-crystals consisted of hexagonal prisms, either single or in numbers, arrang to forms similar to those observed by Scoresby and Belcher. When single they f quently were deformed, and quite frequently different forms were precipitated sim taneously.

I.—Observations on moisture with the psychrometer were made every three hours our voyage north; hourly, on our voyage south. At winter-quarters I took special c to operate in such a manner as to enable me to keep an hourly continuous series observations on relative humidity and dew-point. In order to judge such observati as to their accuracy, and to operate accordingly, it was necessary to once construc table exhibiting relative humidities and dew-points, at temperatures between 0° a — 50°. This I executed in the following manner:

1. I computed the elastic force of vapor of saturated air for every tenth of a degr by the exponential formula:

$$\log e = a - bA^x - cB^x$$

$$\log A = 1.9940493 \quad \square \ \square \quad \log b = 0.1397743$$

$$\log B = 1.9983438 \quad \square \ \square \quad \log c = 0.6924351$$

$$a = 6.2640348.$$

which formula represents best Regnault's entire experiments on the elastic force vapor of water.

2. The elastic force of vapor, corresponding to readings of the psychrometer, I co puted by—

$$x = f \frac{14.256\,(t - t')}{1240.2 - x\,t'}$$

3. Corresponding relative humidity found by—

$$r = \frac{f\,100}{F}$$

4. Corresponding dew-points found directly from results of (I.)

I then prepared a spirit-psychrometer by cutting off the lower part of the frame the two best Casella's spirit-thermometers, to bring their bulbs under perfect exposu to the air. A thin muslin was tied to one of the bulbs, and both thermometers w rigorously compared with the standard by which their relative correction, differen of indications, were accurately ascertained. During the entire winter hourly obser tions of the psychrometer were made, and the relative humidity and dew-point d duced therefrom in the manner shown by the following example:

Reading of standard — 20.3
Correction to naval standard — 0.4
True temperature of atmosphere — 20.7

A.
Reading of dry-bulb.
— 21.2

B.
Reading of wet-bulb.
— 21.3
Difference of A and B when dry — 0.3
— 21.6
— 21.2
Difference of dry and wet-bulb + 0.4
— 20.7
True temperature of wet-bulb — 21.1

Entering the table, previously constructed, with temperature of wet-bulb = — 21 and difference of dry and wet bulbs = 0.4, the corresponding relative humidity a dew-point would be found immediately. I frequently experimented with Regnaul dew-point instrument for the verification of psychrometer observations, having p viously ascertained the relative difference of the two thermometers of the instrument by rigorous comparison with the standard.

The following example will show how, from the indications of the instrument, I deduced the true dew-point:

Reading of standard.	—23.4	Reading of dry thermometer.	—25.2
Correc'n to naval stan'd	— 0.4	Temp. of atmosphere	—23.8
True temp. of air.	— 23.8	Correction of dry thermometer	+ 1.4

Reading of wet thermometer	—27.8
Difference of dry and wet bulbs, when both dry	— 0.7
	+ 1.4
True dew-point	—27.1

Simultaneous observations of psychrometer and dew-point instrument, when reduced in the described manner, resulted in values of the dew-point never differing by more than 0°.5.

The general features of atmospheric moisture at Thank God Harbor are very marked. In fall almost perfect saturation took place by the gradual precipitation of moisture accumulated in higher regions; in January almost entire dryness was observed, and in spring a rapid increase of relative humidity is on record. The fluctuation of moisture, in relation to certain winds and atmospheric pressure, I have already described.

K.—Experiments on atmospheric electricity were made during the winter, but without result. Both instruments used, a gold-leaf electroscope and an electrometer, constructed especially for the expedition, were very sensitive and were frequently hoisted on a pole to the height of from twenty to thirty feet, but without result. I afterward constructed a collection apparatus similar to the one first described by Romershausen, and permanently connected the same in the proper manner with the electroscope. This arrangement would enable the observer on watch to at once notice the presence of atmospheric electricity. I frequently tested this apparatus by applying an electrified glass cylinder, when the gold-leaf would immediately diverge. The collection apparatus was mounted on a pole, twenty-five feet high, and properly insulated; the electroscope had a ground connection by which it could be switched off.

L.—Auroral phenomena were of frequent occurrence in latitudes between 50° and 65° north, and very brilliant; rare in latitudes between 65° and 75° north, and frequent at winter-quarters, but faint, and only exhibiting white light. The general characteristics of aurora at Thank God Harbor were one or more continuous arches of perfectly white light and faint streamers, which were observed at almost all points of true bearing. These streamers at most times were observed directly opposite the true bearing of the sun, then below the horizon. Luminous appearance of the heavens in a similar relation to the sun was also very frequent, and, after a prolonged discussion of the scientific members of the expedition, classified as aurora. Only one complete aurora, forming three different coronas and of a rosy tint, is on the record of Thank God Harbor. This auroral display took place in the evening of some day of February, 1872, during the morning of which fluctuations of the needle, through about 12°, were observed; smaller disturbances were observed during the display. This aurora undoubtedly is identical with the great aurora of February 4, 1872, as it is the only red one seen by us. Not being in possession of an instrument, observations on the auroral spectrum could not be made. At times haziness and slow precipitation of very minute snow-crystals accompanied auroral displays. Experiments on the fluorescence of the aurora have not been made.

M.—*Observations on height of twilight arcs.*

Twilight arcs were observed even when the sun had its greatest south declination; the duration of twilight was always recorded. I also made several measurements with the sextant of the height of the twilight arc, but not as frequently as I would have wished to do, had the light and state of atmosphere been more favorable in rendering the arc sufficiently distinct for measurement. This measurement, when compared with the sun's declination, always showed an 18° distance of the twilight arc from the sun.

N.—*Optical phenomena.*

Mirages, halos, parhelia, and paraselene were of frequent occurrence; observations on the polarization of light of the sky could not be made for want of an instrument.

O.—*Observations on meteors.*

A great number of shooting-stars were observed, especially in November; several bright meteors are on record.

P.—*Miscellaneous observations.*

The line of perpetual snow must be placed above the height of 1,700 feet, as in Ju 1872, I found such an elevation entirely bare of snow.

Observations on evaporation were made, but had to be abandoned on account of c densation of atmospheric moisture and snow-drift.

Minute drops of mercury froze as readily as large masses.

After our arrival at Thank God Harbor I selected the times of observation, so t three of them were taken, respectively, at 7.35 a. m., 4.35 p. m., and 11.35 p. m., Wa ington mean time.

On our voyage north, all observations were made by Dr. Bessels and myself, relievi each other in eight-hour watches. From our arrival at Thank God Harbor until middle of January, I observed the instruments during sixteen hours and Dr. Bess during eight hours.

By the middle of January I considered Mr. Mauch, whom I had instructed in m ing observations, sufficiently advanced, and ever after Dr. Bessels, Mr. Mauch, and self took eight-hour watches.

The complete meteorological record, corrected and reduced by me, the book of co parisons, table of relative humidity, meteorological journal, &c., were among papers.

An incomplete copy of the meteorological record, uncorrected, is on board of Polaris.

6.—NATURAL HISTORY.

All notes and collections referring to this branch are in the hands of Dr. Bessels, w the exception of a botanical collection among my papers.

7.—GEOLOGY.

Notes and collections in reference to geology are also under charge of Dr. Bessels.

8.—NO OBSERVATIONS ON GLACIERS ARE ON RECORD.

Drift-wood, which has been collected on the southern shores of Polaris Bay and N man's Bay, and signs of Esquimaux, as the runner of a sled, and Esquimaux weap are among Dr. Bessels' collection.

The largest part of the instruments under my charge were lost at our separation fr the vessel; all books under my charge will be found on board of the Polaris, with exception of the Müller Pouillet.

F. MEYER,
Observer Signal-Service, U. S.

Paper I. (*Polaris report.*)

ASTRONOMICAL OBSERVATIONS IN SMITH'S SOUND.

August 16, 1872.

Artificial horizon and Pistor & Martin's sextant.

Time by chronometer F.

Z. 11h. 49m. 18.0s. | 28.0s. |
F. 6h. 52m. 40.0s. | 50.0s. |

Barometer, 29.94 (aneroid.)	On — 32′ 35″.
Temperature, + 34°.6.	Off — 30′ 45″.
Sun's altitude.	
Lower limb.—24° 54′	6h. 03m. 11.6s.
25 22	08 36.4
25 30	10 09.6
25 38	11 42.4
25 46	13 14.8
Latitude, 80° 01′ 59″.09 N.	A: 84° 49′ 12″.4.
Longitude, 68 49 23 W.	

By prismatic compass.

Sun's azimuth—center: S. 18° 15′ W.	6h. 31m. 35.0s.

Declination, 107° 57′ 44″ W.

Cape Frazer—S. 163° 50′ W.	
Cape Wilkes—S. 172 00 W.	
Head of Maury Bay—S. 186 00 W.	
Cape Barrow—S. 191 35 W.	
Cape N. Shaw—S. 209 00 W.	6h. 37m.

August 18, 1872.

Artificial horizon and Pistor and Martin's sextant.

Time by chronometer F.

Z. 10h. 40m. 23.0s. | 33.0s. |
F. 5h. 43m. 09.6s. | 19.6s. |

Barometer, 29.892, (aneroid.)
Temperature, + 31°.6.

On—28′ 15″.
Off—35′ 10″.

Sun's altitude.

Lower limb.—25° 32′.	6h. 27m. 56.4s.
48	30 56.4
56	32 26.0
26 04	33 56.0
36	39 55.6

Latitude, 79° 44′ 46″.5 N.
Longitude, 69 24 37.5 W.

A: 89° 22′ 54″

By prismatic compass.

Sun's azimuth—center: S. 19° 40′ W. 6h. 41m. 40.0s.

Declination, 107° 39′ 26″ W.

Cape McClintock—S. 279° 15′ W.
Cape N. Shaw—S. 270 00 W.
Cape Barrow—S. 260 50 W.
Cape Wilkes—S. 253 45 W.
Cape Frazer—S. 233 20 W.
Point Joy—S. 188 50 W.
Cape L. Napoleon—S. 183 50 W.

August 19, 1 a. m. and 3 a. m.

Sounding—101 fathoms.

Cape Frazer—S. 230° 30′ W.
Point Joy—S. 197 00 W.
Cape L. Napoleon—S. 186 30 W.

August 20, 1872.

Artificial horizon and Pistor & Martin's sextant.

Time by chronometer F.

Z. 4h. 28m. 45.0s. | 55.0s. |
F. 11h. 30m. 40.0s. | 50.0s. |

On—31′ 10″
Off—32′ 15″

Sun's altitude.

Lower limb.—44° 21′ 30″.	11h. 48m. 41.6s.
23 55	51 26.8
25 30	54 50.6
27 35	57 41.0
28 45	59 50.4
29 20	12 01 14.0
30 00	02 55.6
30 45	05 25.2
31 00	06 46.4
31 40	09 06.0
32 00	10 31.2
32 20	12 09.2
32 40	13 53.2
33 00	15 47.2
33 20	17 46.0
33 40	19 50.0
33 30	23 22.4
33 20	24 24.0

Z. 5h. 28m. 36.0s. | 46.0s. |
F. 12h. 30m. 29.6s. | 39.6s. |

Latitude, 79° 40′ 39″ N.

August 21, 1872.

Artificial horizon, sextant, "Coast Survey No. 39."

Time by chronometer F.

Z. 1h. 23m. 30.0s. | 40.0s. |
F. 8h. 24m. 50.4s. | 00.4s. |

Barometer, 29.994.
Temperature, + 42.9.

On—32′ 50″.
Off—30′ 40″.

Sun's altitude.

Lower limb.—35° 46′ 20″.	8h. 54m. 01.2s.
35 57 20	56 46.4
36 08 25	59 37.6

Z. 2h. 19m. 49.0s. | 59.0s. |
F. 9h. 21m. 09.6s. | 19.6s. |
Longitude, 70° 17′ 36″ W.

……

August 21, 1872.

Artificial horizon and Pistor and Martin's sextant.

Time by chronometer F.

Z. 4h. 52m. 59.0s. | 53m. 09.0s. |
F. 11h. 54m. 19.6s. | 54m. 29.6s. |

Barometer, 30.013.
Thermometer, + 42° 3.

On—31′ 05″.
Off—32′ 15″.

Sun's altitude.

Lower limb.—43° 59′ 05″.	12h. 14m. 17.2s.
59 50	15 41.0
44 00 00	17 35.6
00 05	19 09.6
00 10	21 03.2
00 10	22 35.6
43 59 55	25 26.6
59 45	26 41.0

Z. 5h. 41m. 40.0s. | 50.0s. |
F. 12h. 43m. 00.0s. | 10.0s. |
Latitude: 79° 41′ 33″.6 N.

……

August 24, 1872.

Artificial horizon and Pistor & Martin's sextant.

Time by chronometer F.

Z. 10h. 43m. 54.0s. | 44m. 04.0s. |
F. 5h. 43m. 50.0s. | 44m. 00.0s. |

Barometer, 30.238.
Thermometer, +32.4.

On—31′ 10″
Off—32′ 20″

Sun's altitude.

Lower limb.—21° 18′ 20″	6h. 18m. 35.0s.
Upper limb.—22 34 30	20 55.6.
Lower limb.—22 34 30	32 39.2.

Z. 12h. 06m. 17.0 | 27.0 |
F. 7h. 06m. 10.0 | 20.0 |
Latitude, 79° 36 10″.5 N.
Longitude, 68 09 06.0 W.

Sun's azimuth—center: S. 18° 50′ W. 6h. 35m. 12.0s.
Declination: 107° 48′ 52″ W.

August 24, 1872.

Bearings.

Cape L. Napoleon—S. 199° 20′ W.
Point Joy—S. 210 00 W.
Cape Frazer—S. 233 50 W.
Cape Wilkes—S. 244 00 W.
Cape Barrow—S. 250 00 W.
Cape N. Shaw—S. 256 00 W.
Cape McClintock—S. 262 50 W.
Cape L. Von Buch—S. 288 30 W.
Cape G. Back—S. 290 40 W.

……

October 9, 1872.

By prismatic compass.

Bearing.	Latitude.	Longitude.
pe Ingersoll: S. 47° W.	78° 38′ 30″ N.	71° 12′ 31″.3 W.
pe Inglefield: S. 117° W.	78° 34′ 06″ N.	72° 14′ 40″.2 W.

Resulting { Latitude, 78° 44′ N. / Longitude, 72° 01′ 22″.3 W. } of Observer.

Paper II.

DIRECTION OF WIND AFTER SEPARATION FROM VESSEL.

Date.	Latitude.	Longitude.	Direction of wind.	Temperature.	Date.	Latitude.	Longitude.	Direction of wind.	Temperature.
1872.	° ′	° ′		°	1872.	° ′	° ′		°
. 16	77 35		S. E.		Nov. 23			N.	
			N. E.		24			N.	
17			N. E.		25			N. W.	
18					26			W.	
19					27			W.	
20					28			W.	
21					29			W.	
22			S. E.		30			0	
23			S. E.		Dec. 1			0	
24			S. E.		2			NW.	
25					3			NW.	
26			E.	+ 5	4			NW.	− 9
27			N. E.	+ 2.5	5			NW.	−15
28			0 and E.		6			NW.	− 4
29			0						− 1
30			0		7	74 04	67 53	W.	
31			0					SW.	
v. 1			0		8			S.	− 5
2									−12
3					9			NW.	−13
4			0						−18
5			N.W. & N.		10			NW.	−17
6			N. & N. E.						−21
7					11			0	−26
8					12			W.	−21.5
9					13			W.	−19
10			N.		14			0	−25
11			N.		15			W.	−20
12			N.		16			W.	− 3
13									− 1
14					17			0	− 4
15			S. E.						+ 1.5
16			N.		18			0	+ 5
17			N.		19			N.	+ 2
18			N. W.		20			W.	+ 4
19			W.		21			N.	+ 9
20			0						+ 6
21			0		22			0	−14
22			0		23			NW.	− 9

Paper II—Continued.

Date.	Latitude.	Longitude.	Direction of wind.	Temperature.
1872.	° ′	° ′		°
Dec. 24...	....	....	N.	+ 4
25...	....	....	N.	− 1
26...	....	....	N.	+12
27...	....	....	N.	+ 8
				+ 5
28...	....	....	0	+ 1
				+ 3
29...	....	....	N.	− 4
				− 6
30...	....	....	NW.	−10
31...	....	....	S.	−21
			N.	−23
1873.				
Jan. 1...	....	....	0	−25
			SE.	−29
2...	....	....	Ch'ng'ble.	−18
				−23
3...	....	....	NW.	−23
4...	....	....	NW.	− 2
5...	72 07	60 41	S.	−22
				−25
6...	....	....	S.	−25
				−30
7...	....	....	S.	−25
				−30
8...	....	....	S.	−27
				−30
9...	....	....	0	−35
10...	....	....	SE.	−30
11...	....	....	NE.	−33
12...	....	....	NW.	−33
13...	....	....	0	−38
				−40
14...	....	....	NE.	−12
				−16
15...	....	....	W.	−17
16...	....	....	NW.	−31
				−25
17...	....	....	NW.	−38
18...	....	....	NW.	−27
				−28
19...	....	....	0	−27
				−32
20...	70 02	60 01	0	−33
21...	....	....	N.	−36
22...	....	....	SE.	−39
				−32
23...	....	....	NW.	−31
			W.	−35
24...	....	....	S. E.	−23
				−21
25...	....	....	N. W.	−34
				Below −40
26...	....	....	N. W.	Below −40
27...	69 32	60 03	S. E.	Below −40
28...	....	....	0	Below −40
29...	....	....	S. E.	Below −40
			S.	−34
30...	....	....	S. W.	−24
			S. E., E.	−19
31..	....	....	N.E., N.W	−24
			N.	−26
Feb. 1...	....	....	W.	−22
				−19
2...	....	....	W. N. W.	−19
				−16
3...	....	....	S. S. W.	−16
				−13
4...	....	....	W.	−10
5...	68 50	....	S. W., S.	−17
			S. S. E.	....
6...	....	....	N. W.	−10
7...	....	....	S.	−10
			W.	− 5
				−24
				−26
8...	....	....	0	−30
			S. E.	−16
1873.	° ′	° ′		°
Feb. 9...	....	....	W.	−10
10. .	....	....	W.	−10
				−20
11...	....	....	N. W.	− 7
12...	....	....	N. W.	....
			W.	−10
13...	....	....	W.	−10
14...	....	....	W.	−19
				−16
15...	....	....	W.	−15
16. :	....	....	0	....
			W.	....
17...	....	....	W.	−30
				−20
18...	....	....	W.	−25
19...	....	....	N.	−14
				−24
20...	....	....	E.	− 8
				− 4
21...	....	....	0	+ 6
			S.	+10
22...	....	....	0	+ 5
			S. E.	+24
23...	....	....	S. E.	+20
				+15
				+12
24...	....	....	N.	− 8
				+ 2
25...	....	....	0	− 9
			N. E.	+ 5
26...	....	....	N. W.	−24
			0	−10
27...	....	....	N.	−25
28...	....	....	N. W.	−28
				−20
Mar. 1...	....	....	N. W.	−34
				−18
2...	....	....	N. W.	−31
				−19
3...	....	....	N. W.	−23
				−20
4...	....	....	0	−27
				− 6
				−34
5...	....	....	N. W.	....
6...	....	....	W. N. W.	−20
7...	....	....	W. N. W.	−23
				−20
8...	....	....	0	−30
				−13
9...	....	....	0	−22
			N.	−10
10...	....	....	N.	....
11...	....	....	N.	+ 5
				+ 1
12...	64 32	....	N.	+15
13...	....	....	N. N. W.	+40
				+10
				− 4
14...	64 19	....	S. E.	− 8
				+14
15...	....	....	E.	− 5
15...	....	....	N. W.	+10
16...	....	....	0	− 8
				− 1
17...	63 47	....	N. E.	− 5
				+18
18...	....	....	S. W.	−13
			N. W.	−50
19...	......	....	N.	−18
				− 4
20...	....	....	N.	−11
				− 4
21...	....	....	N.	....
22...	62 56	....	N. W.	−10
				+15
23...	....	....	N.	− 5
				+ 8

Paper II—Continued.

Date.	Latitude.	Longitude.	Direction of wind.	Temperature.
1873.	° ′	° ′		°
ar. 24...			N.	−5 +8
25...	61 59		N.	−6 +7
26...			N. W.	−4 +9
27...			N. W.	0 +20
28...			N.	+3 +10
29...			W. N. W.	−1 +9
30...			W. N. W.	+6
31...	59 41		W. N. W.	
pril 1...			N. N. W.	+12
2...			S. W.	
3...			N. N. W.	
4...	56 47		N. E.	
5...			N. E.	
6...			N. W.	
7...			W. N. W.	
8...			W. N. W.	
9...	55 51		N. W.	
1873.	° ′	° ′		°
April 10...			0	
11...			0	
12...	55 35		S. E.	
13...	55 23		S. W.	
14...	55 13		N.	
15...	54 58		N.	
16...	54 27		N. N. W.	
17...			N.	
18...			N. W.	
19...			N. W.	
20...			N. E.	
21...	52 57		N. E.	
22...				
23...			N. N. E.	
24...			N. N. E.	
25...			N. E.	
26...	53 30			
27...				
28...			W. S. & W.	
29...	53 04		0	
30...				

PAPER 28.

WASHINGTON, D. C., *September* 30, 1873.

SIR: In accordance with instructions received from Colonel Mallery, I have endeav-red in the short time at my disposal to prepare a brief preliminary account of the evere cyclone that visited the shores of Nova Scotia and Newfoundland on the 24th nd 25th of August last, where it did immense damage; and have also given some ttention to the preliminary storm of August 13 and 14, which was severely felt on the hores of New Jersey.

In preparing the maps which accompany this report, an attempt has been made to ather in from all possible sources of information such meteorological observations s, although somewhat crude, may enable us to obtain a better understanding of he extent of these storms. To this end application has been made through Captain Iowgate for the logs of a number of vessels that have passed in or near the regions isited by the storms in question. A list of the sources of information will be found in he Appendix No. 1, and it is proper here to state that the office is especially indebted o the kindness of the Hon. Secretary of State; the Hon. Secretary of the Navy; Prof. oseph Henry, of the Smithsonian Institution; Mr. Lorin Blodget, of Philadelphia; the epresentatives at Washington of the New York Herald, Times, and Tribune, and the oston Advertiser and Journal; Dr. Smallwood, of Montreal; Professor Kingston, of oronto; the captains of the steamship Sonora, brig Dorothea, steamer E. M. Arndt; Ir. T. C. Hill, of Sidney, Cape Breton; W. Allison, of Chatham, Cape Breton; and Mr. I. Clift, of Harbor-Grace, N. F., for courtesies shown in the supplying of such material s was available for the purpose in hand. In Appendix No. 2 will be found a list of hose vessels whose logs were used in connection with the observations made upon hore.

Besides the meteorological features of the hurricane, the great destruction of life and roperty has rendered it proper that I should prepare a brief statement of such details s have been collected up to this date. In this work I have been especially assisted by ergeant Pearson, who has prepared a detailed map and the accompanying table, Appendix No. 3,) in which is shown the geographical distribution of the damage done o life and property. The sums-total given in this final table are evidently far within he probable truth, and I have thought it not improper to make the following slight dditions in order to arrive at a more correct idea of the ravages of this terrible storm:

One thousand and thirty-two vessels, of which four hundred and thirty-five were mall fishing-schooners, are known to have been destroyed during the 24th and 25th of ugust in the neighborhood of the Gulf of Saint Lawrence and the Atlantic shores of Iova Scotia, Cape Breton, and Newfoundland. On the other hand, over ninety vessels vere destroyed by this hurricane in the course of its passage over the ocean before eaching Nova Scotia, making a grand total of at least one thousand one hundred and wenty-three vessels destroyed within a few days by its power. Two hundred and twenty-hree lives are definitely reported as lost, and the most moderate estimate of the numerous

cases in which whole crews are stated to have been lost swells this number to nearly f
hundred, while if to this is added the loss of life on land, and the loss in the earlier h
tory of the cyclone, the grand total amounts to at least six hundred lives. The su
mary given shows that little less than nine hundred buildings were damaged or
stroyed during the 24th and 25th of the month. Any endeavor to estimate the va
of the property destroyed is attended with great difficulties, but may be within bou
if to the seven hundred thousand dollars damage done to wharves and crops is ad
one thousand dollars for each building, two thousand dollars for each of the lar
vessels, and one thousand dollars for each of the smaller vessels, which would giv
total of three and a half millions of dollars, a sum that it will be seen may easily
far below the truth. It is not unimportant to here remark that the ravages of t
storm have very seriously crippled the interests of the American and Canadian fi
eries, and that the loss falls with special severity upon Gloucester and other citie
New England.

The following maps accompanying this report give a general view of the progr
of this storm:

Map No. VII shows the meteorological conditions at 4.35 p. m., Washington ti
August 23.

Map No. VIII shows the meteorological conditions at 4.35 p. m., August 24.

Map No. IX shows the conditions at 11 p. m., August 24.

Map No. X shows the conditions at 7.35 a. m., August 25.

Map No. XI shows the conditions at 4.35 p. m., August 25.

On the latter chart the previous track of the storm, as far as it has been traced
also given; and in Appendix No. 12 is a table giving the geographical positions of
storm-center, showing it to have been one of a not very large class of cyclonic sto
that, beginning in the West Indies, work westward and northward, up between
Bermudas and the Atlantic coast, and then turn northeastward toward Newfoundla
It is scarcely to be doubted that such a storm as this must have continued its cou
for several days longer toward Europe; and it is an interesting fact that the Bulle
International of the Paris Observatory shows that a severe storm moved over
northern portion of Great Britain on the 31st of August, reaching Norway on the 2
September; and although no logs of vessels have yet been received from the east
half of the Atlantic Ocean sufficiently precise to establish the details of the connect
between this European storm and that of the preceding days in Nova Scotia, yet
interval of three and a half days is so short as to leave no reasonable doubt but t
they were identical.

It has frequently been stated that while no doubt could exist as to the identity
general of the great American and European storms, yet that no single instance of
kind had as yet been well established. It is to be hoped that the present contribut
to this subject may be considered as removing all doubt on this matter, although
pains will be spared to secure further testimony.

The principal features of the weather in the Middle and Eastern States during
period embracing the present study may be briefly summarized as follows:

On the morning of the 12th an area of slight barometric depression existed wes
the Alleghanies. The temperature throughout that region was of about the nor
value; the wind light and variable. The influence of this depression was, howe
already perceptible on the Middle Atlantic coast, where easterly winds with clouds a
light rain were reported, while over New England and Nova Scotia the barome
stood somewhat about the average value, with northerly winds and clear weather. V
sels off the coast reported northeasterly winds, and those over a hundred miles dist
designated these as gales. By the morning of the 13th the barometer had fallen
cidedly on the Middle Atlantic coast, and northeasterly winds increasing about to h
with rain prevailing throughout these States, while in New England the pressure h
slightly risen, it being apparently highest at that time over Maine and New Bru
wick. The indraft of air from the ocean continued during the 13th and until the 14
producing, as has been quite frequently noticed on other occasions, a continued incre
of the disturbance that had been initiated the previous day along the Atlantic coa
very heavy rains fell during the night, and a secondary barometric depression appe
on that morning to have been central over the peninsula lying between the Chesape
and Delaware Bays. It is, perhaps, impossible to say whether this depression origina
in Virginia or off the Atlantic coast, and whether it had moved northeastward or mer
northward.

This delicate point could have been settled, probably, had we been able to obt
any accurate meteorological reports from the peninsula in question; as it is, the
pression passing through Delaware on the nights of the 13th and 14th was apparen
accompanied by two, if not three or four, smaller storm-centers, which, being of
nature of tornadoes, seemed to have done considerable damage, both by wind a
rain, in Eastern Pennsylvania and in Maryland. The most severe winds were, a
always the case, reported from the New Jersey coast; and, destructive as these nor
easterly gales were to property on the land, it is satisfactory to be able to refer to

etter of Captain Felber, of the steamship E. M. Arndt, who testifies that, being on is way to New York with a disabled propelling-screw, and relying entirely upon the vinds, he was fortunate enough to obtain a copy of the New York Herald on the 10th f August, of the preceding day, containing the prediction of continued northeasterly vinds along the New England coast, and relying upon this, made a speedy and safe assage to the harbor of New York, which he entered at 6 p. m., August 13. The torm which on the morning of August 14 was probably central near Long Branch, New Jersey, appears to have increased somewhat in size and severity during the day, roducing brisk and high northeasterly winds in Southern New England, which inrease was, however, quite in accordance with our previous knowledge of the diurnal growth and subsidence of these phenomena. Owing to the presence of a large body f cold, dry air to the northward, the meteor could advance but very little in that lirection; it appears rather to have moved directly eastward, or possibly east-northeastward, and, on the morning of the 15th, to have been about one hundred miles outh of Cape Cod, while northeasterly winds, diminishing in force and backing to orth, prevailed, with clouds and light rain, in New England.

During the 15th easterly winds with rain prevailed at Halifax, and the disturbance eems to have almost completely died away. It is important to notice that, while this omparatively insignificant storm was thus passing northeastward over New Jersey oward Nova Scotia, the barometer had steadily risen at the Bermudas, with light vinds and pleasant weather on the 16th, but with somewhat stronger southwesterly vinds and rain on the 13th, 14th, and 15th. The highest pressure of the month was ttained at the Bermudas on the 18th of August, and rainless weather continued in hese islands from the 16th to the 21st of the month; indeed, the drought of August nd September has been much complained of by the residents of those islands. Durng the former interval the cyclone, which has been frequently termed the great Nova Scotia cyclone, was steadily developing some five hundred miles to the outhward. The first report that has reached us concerning this hurricane is robably that of the 13th of August, when the bark Crest of the Wave reported heavy gale veering from northeast to southeast in latitude 14° and longitude 7°; as, however, our next definite information concerning the hurricane is dated n the 18th of the month, it would be too much to assume more than that the veather experienced by the bark Crest of the Wave was intimately associated with he early history of the Nova Scotia cyclone. The observation, however, deserves o be recorded, inasmuch as several of these storms are already known to have originated not far from the region in which the Crest of the Wave then was, and it is ar from impossible but that we shall, by further diligent collocation of ships' reports, e able to carry back the history of the Nova Scotia cyclone from the 18th to the 13th f August, and possibly still further, and to show that this belongs to the class of cyclones that originate near the coast of Senegambia, and distinguished from those hat originate further to the west. Be this as it may, the history of the Nova Scotia cyclone since the 18th of August seems to be sufficiently clear. It was at noon of that late in about latitude 22° and longitude 60°, with light northeast winds and falling arometer at the Bermudas; at noon of August 19th it was in latitude 22°, longitude 3°; at noon of August 20th, in latitude 27°, longitude 66°; at noon of August 21st, n latitude 30°, longitude 67°.5, with falling barometer and strong northeasterly winds veering to southeast at the Bermudas; at noon, August 22d, it was in latitude 33°.5, nd longitude 68°.5; at noon of August 23d, in latitude 37° and longitude 67°, with outhwesterly gales at the Bermudas. At this time the barometric depression attendng the cyclone seems to have extended to a distance of at least five hundred miles orthwest and northward of its center, with falling barometer and cloudy weather reported in New England and Canada, while the report from Mount Washington hows continued northwesterly winds.

In the multiplicity of conflicting accounts concerning the positions of vessels and the veather experienced by them on the 23d, 24th, and 25th of the month, it is difficult to atisfy that desire for the exact truth which should guide the study of nature; and in tating, as my conclusion, that the center of the cyclone and its most terrific maniestation of power did not pass directly over Nova Scotia, but kept perhaps two hunlred miles off its coast, I am aware that discrepant observations may be adduced conflicting with this conclusion. It is my belief, however, that at midnight of the 24th–25th, the center of the storm must have been in latitude 44° and in longitude 56°. t was about this time that the lowest barometers were experienced at Halifax, Sidney, Charlotte Town, and also on board several vessels at that time near the coast of Nova Scotia. Between sunset and sunrise of this night occurred the greatest destruction of ife and property in this region, due to a terrific easterly wind, which within twenty-four hours backed from southeast to northwest. On the 25th at noon the storm was apparently central in latitude 44°.5 and longitude 54°.5. It was at this time that the owest barometer was reported on the Magdalen Islands, Gulf of St. Lawrence. It is to e remarked, however, that the lowest reading of the barometers in Nova Scotia and he Gulf of St. Lawrence when reduced to the sea-level do not fall below 28.90, while the occasional reports of barometric readings made by vessels at sea, incorrect thou they may be, owing to our ignorance of the errors of the instruments, yet uniform point to a pressure at least as low as 28.30 inches near the center of the cyclone. the 25th at midnight it is impossible to locate the region of lowest barometer near than is indicated by the winds at Harbor-Grace, Newfoundland, and Cape Bret which point to the center as being in latitude 46° and longitude 52°. At noon of t 26th the center must have been about latitude 47°.5 and longitude 50°. At this sa rate of progress the center would at noon of the 27th be in latitude 49°.5, longitu 54°.5. The accompanying table, Appendix No. XII, gives in addition to the precedi positions, which are comparatively well established, also the positions of the baromet depression that reached the shores of Great Britain a few days subsequently, as sho by the Bulletin International; this disturbance was apparently far less severe th that of Nova Scotia, which is in accordance with the well-recognized general rule th these storms gradually extend over a large circular area, and, after diminishing in for completely break up on encountering large continental masses of dry air.

In connection with this brief sketch of the progress of the Nova Scotia cyclone would respectfully direct your attention to the fact that whenever we have telegrap communication with the Bermudas it will become possible to greatly extend the sco of the storm-predictions, and by the co-operation of the fast-sailing European stea ers to forewarn vessels leaving the ports of the United States of the existence of a cyclone that may be in progress some distance off the coast. It is indeed evident th as any portion of the territory covered by the signal-service stations is liable to stor approaching from the southeast, southwest, or northwest, it should be equally pr tected, if possible, on all sides. The advantages of an extended correspondence wi navigators have been very strongly felt in the prosecution of this work, and a ve considerable extension in this direction of the work of the signal-service would see to be justifiable.

I have the honor to remain, very respectfully, yours,

CLEVELAND ABBE,
Assistant, Office Chief Signal-Officer.

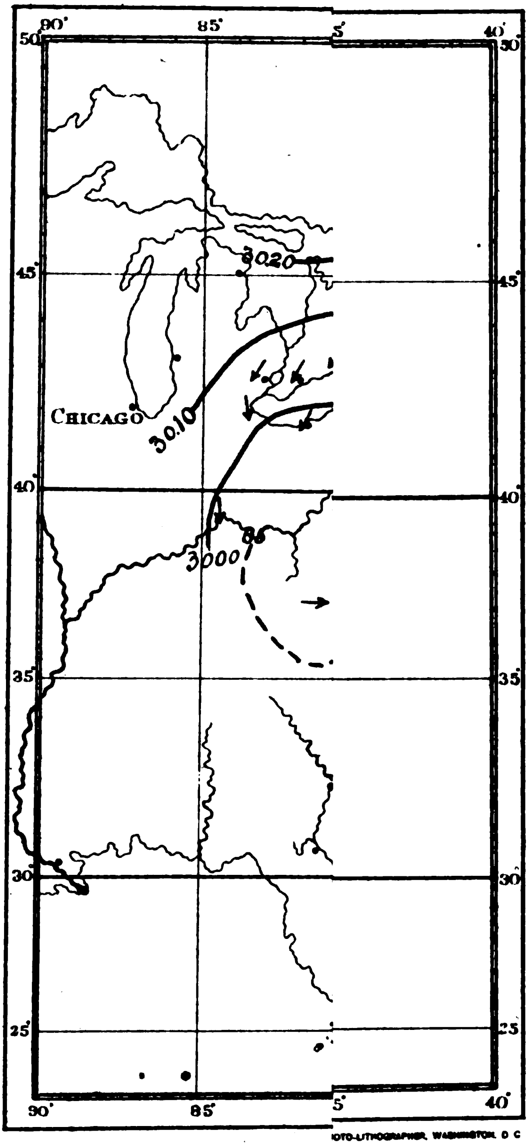
Brig. Gen. A. J. MYER,
Chief Signal-Officer, United States Army.

APPENDIXES TO THE REPORT ON THE NOVA SCOTIA CYCLONE AUGUST 24-25, 1873.

APPENDIX No. I.

The following sources of information have been examined:

Signal-service stations, forms 4, MSS.
Signal-service stations, journals, MSS.
Canadian stations, forms 4, MSS., (excepting Saugeen, Port Dover, Port Stanl Quebec, and Kingston, Canada, for week ending August 30, and Halifax and Chatha N. B., for week ending August 23.)
Remarks of H. Clift, at Harbor-Grace, Newfoundland, MSS.
Letter of Dr. Smallwood, Montreal, September 13, MSS.
Letter of W. C. W. Schreck, observer-sergeant, Eastport, Me., September 13, MSS.
Letter of A. B. Williams, observer-sergeant, Portland, Me., September 15, MSS.
Letter of Capt. C. Felber, steamer E. M. Arndt, MSS.
Montreal local observations, MSS.
Storm-report of W. Allison, at Chatham, N. B., MSS.
Meteorological register, in letter of Gilbert Murdock, September 20, MSS.
Meteorological register, in letter of J. P. Hill, September 22, Sydney, C. B., MSS.
Logs of steamship Sonora, MSS.
Log of brig Dorothea, MSS.
Log of steamship Alhambra, MSS.
Log of steamer Russia, MSS.
Log of steamer Europa, MSS.
Prof. Maury's Paper 1503—log of Hammonia, MSS.
Log of steamship Albemarle, MSS.
Log of United States steamer Powhatan, August 23, 24, 25.
Washington Chronicle, September 17 (?), 18 (?), 27.
New York Herald, from August 11 to September 30.
New York Times, from August 11 to September 30.
New York Tribune, from August 11 to September 30.
New York Journal of Commerce, from August 11 to August 30, and from Septembe to September 19, inclusive, excepting 2, 3, 12, 16, 17 September.



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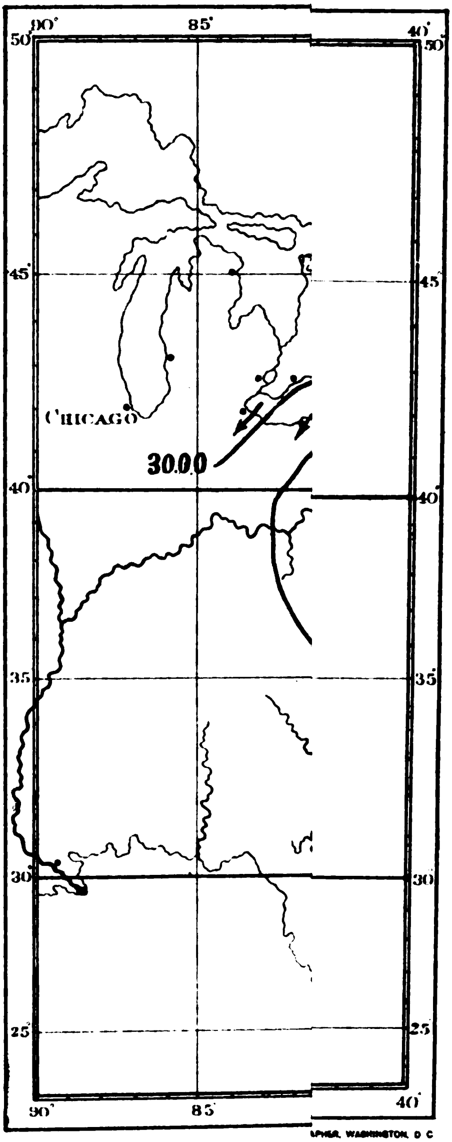

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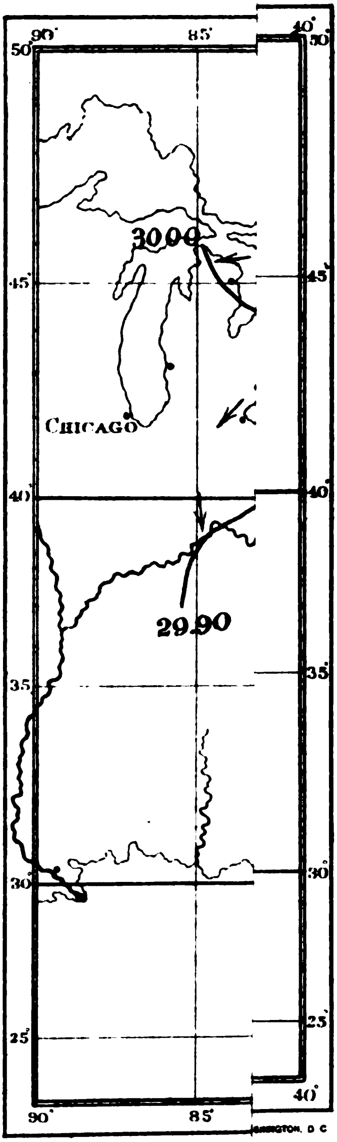
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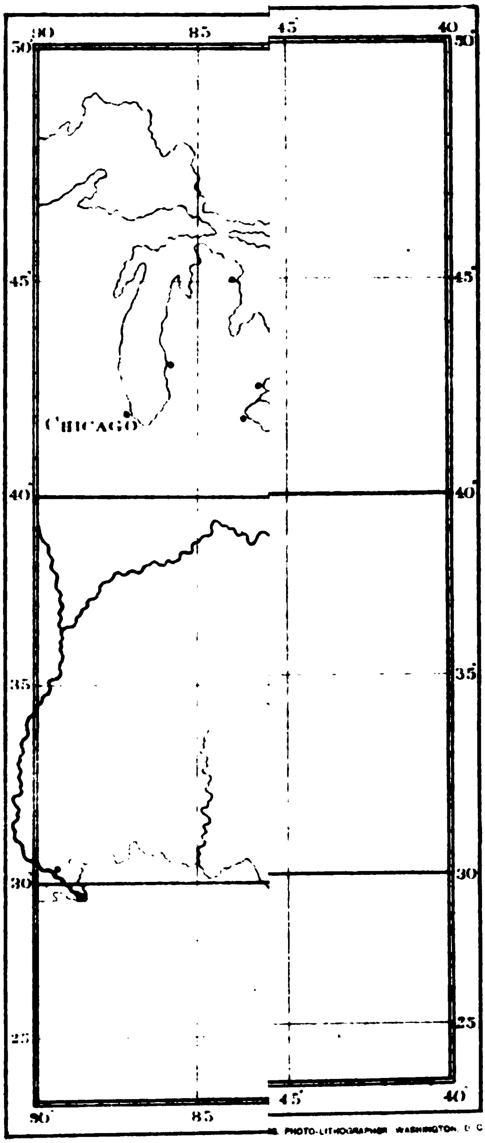
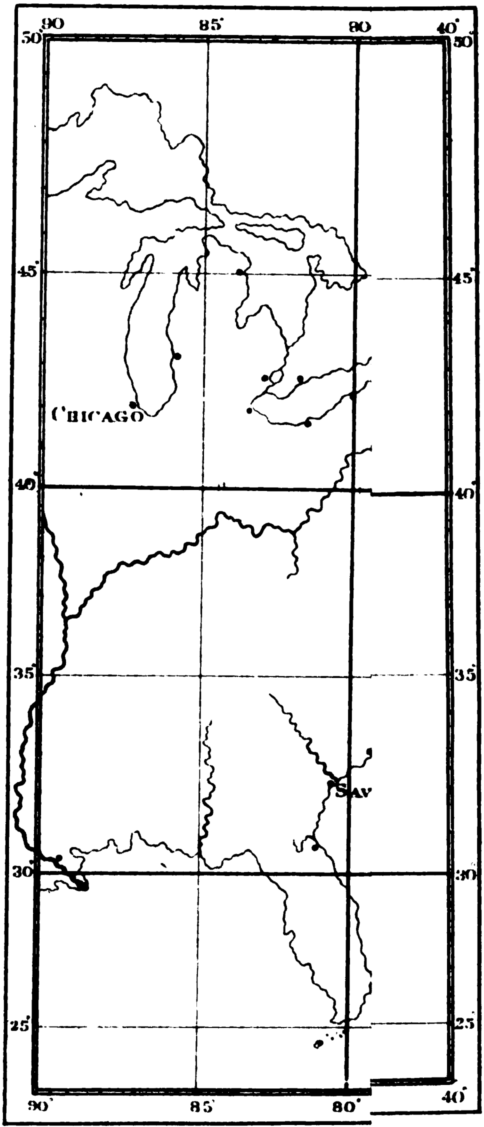


PHOTO-LITHOGRAPHER WASHINGTON, D. C.



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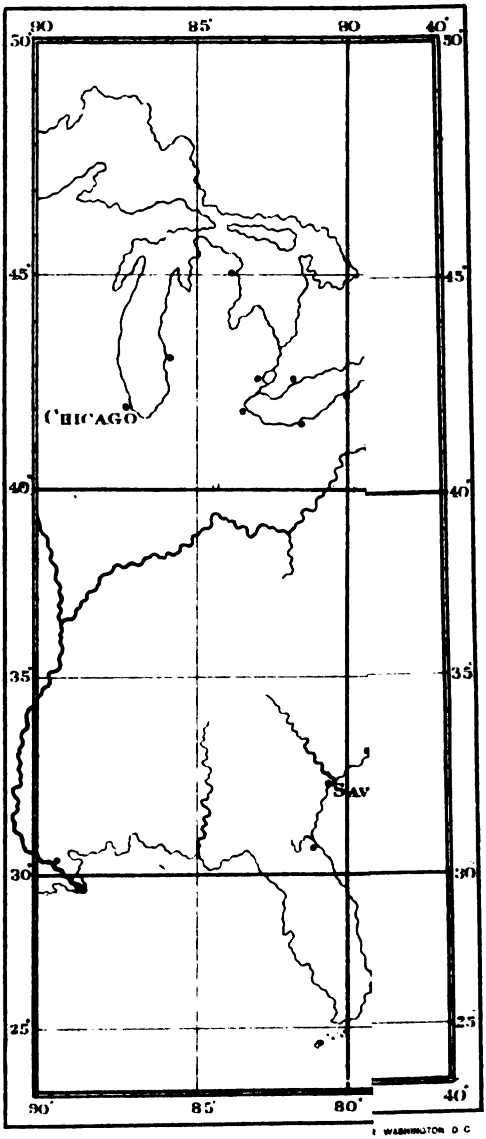

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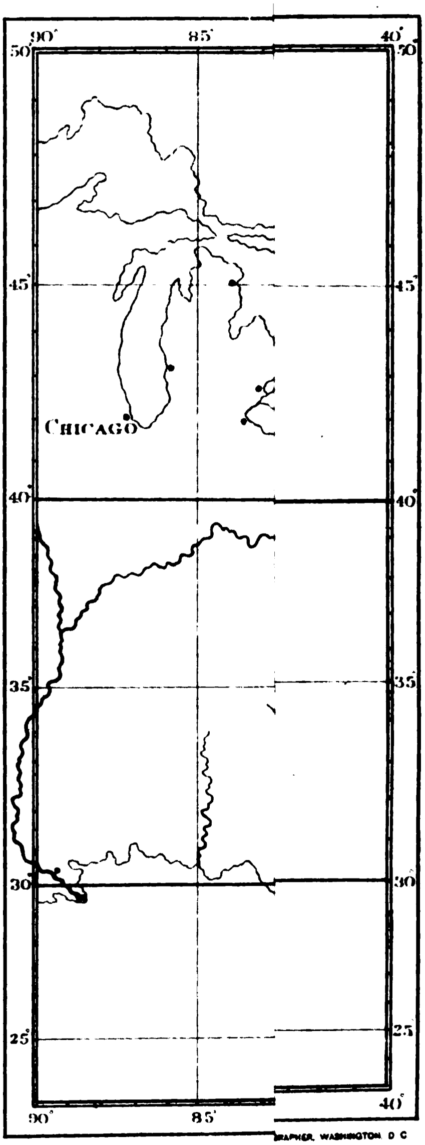

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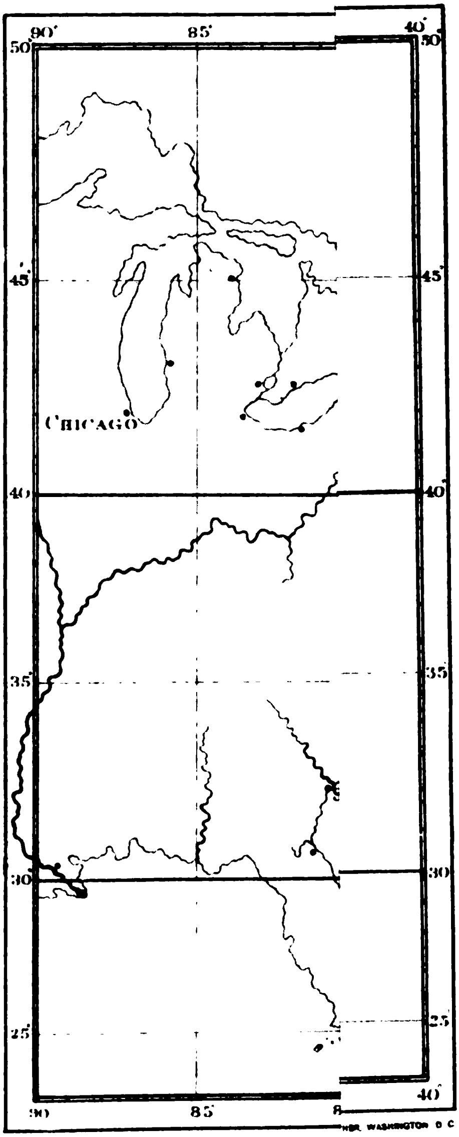
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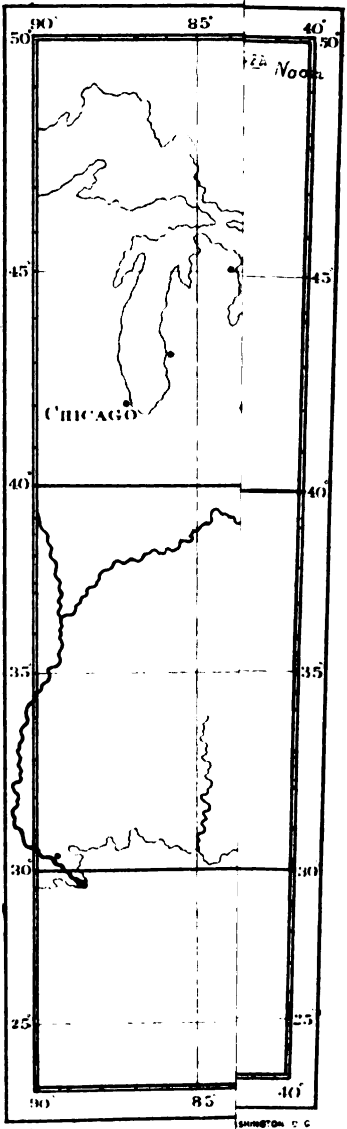
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Boston Journal, from August 11 to September 18.
Boston Advertiser, from September 1 to September 18.
Boston Globe, from August 11 to September 18.
Boston Post, from August 11 to August 30.
London Times, from August 24 to September 12; also, letter of H. B. Wilson in
nes of September 18. Files of Times imperfect.
London Standard, imperfect files up to September 12.
London Globe, imperfect files up to September 12.
London Daily News, imperfect files up to September 12.
London Telegraph, imperfect files up to September 12.
Charlotte Town (Prince Edward Island) Patriot, August 28, 30, September 18.
armouth (N. S.) Herald, August 28, September 4, 11.
Halifax Tri-Weekly Academic Recorder, August 29.
Halifax Morning Chronicle, August 28, 30, September 2, 4, 6, 11, 13, 16.
New Glasgow (N. S.) Eastern Chronicle, August 28, September 4.
North Sydney (C. B.) Herald, August 27, September 3.
Sydney (C. B.) Cape Breton Advocate, August 28, September 11.
Sydney (C. B.) Times, August 30, September 6, 13, 20.
Hamilton (Bermuda) Royal Gazette, August 12, 19, 26, September 2, 9, 16.
Newspaper slips inclosed in letter of Gilbert Murdock, September 20.

Appendix No. II.

t of vessels from which information has been received concerning the Nova Scotia cyclone of August 24–25, 1873.

- America, steamship.
- Australia, steamship.
- Atlantic, bark.
- Arthur, brig.
- Assam Valley, ship.
- Albemarle, steamer.
- Athena, bark.
- Alexander, bark.
- Belle Stewart, bark.
- Brazos, bark.
- Crest of the Wave, bark.
- Dos Hermanos, schooner.
- Dundee, brig.
- E. M. Arndt, steamer.
- Excelsior, brigantine.
- Emma F. Lewis, schooner.
- Esperanza, ———.
- Ellen Southard, ship.
- Ella Maria, brig.
- Edinburgh, steamship.
- Everhard Delius, bark.
- E. M. Seeds, bark.
- Guldfaxe, ship.
- Hound, brig.
- Helen Sands, bark.
- H. M. Crosby, schooner.
- Helicon, ship.
- Hoogly, ship.
- Hebe, ship.
- Helvetia, ship.
- Hammonia, steamship.
- Importer, ship.
- Italia, steamship.
- J. Morton, brig or schooner.
- Jas. Kenway, bark.
- Kingston, brig.
- Louise, bark.
- La Plant, steamship.
- Lookout, schooner.
- Lapland, steamer.
- Mary Louise, fishing-schooner.
- Minnehaha, ship.
- Mary S. Lunt, schooner.
- Mercur, bark.
- Napier, schooner.
- Nora, ship.
- Orinoco, bark.
- Oceanic, steamship.
- Oak Point, brig.
- Pennsylvania, steamship.
- Primera, bark.
- Russia, steamer.
- Reform, bark.
- Ravenwood, brig.
- Saint Olaf, steamship.
- Saltwell, steamship.
- Sappho, schooner.
- Susan E. Voorhees, brig.
- Scindia, steamship.
- Spirito, bark.
- The Brothers, schooner.
- Thos. Dunham, ship.
- T. Arthur, brig.
- Tenax Proposite, bark.
- Young Eagle, bark.
- Zizine, bark.
- Zuleima, bark.

Appendix No. III.

tails of loss or damage incurred in storm of August 24–25, 1873, at Cape Breton, Gaspe, Labrador, Magdalen Islands, New Brunswick, Newfoundland, Nova Scotia, and Prince Edward Island.

Vessels described as fishing-schooners entered under the head of "small" vessels; all her under the head of "larger" vessels.

Lives lost: numbers only given where definite information has been received crews, where "all hands" are reported lost, have been estimated at 10 for eac crew.

Amount of property in dollars only contains such items as have been reported.

Buildings damaged or destroyed: contains all buildings, of whatever descriptio where numbers have been given.

All loss or damage described as "immense," "great," "several," "many," "incalculable," "unlimited," "very large," &c., has not been allowed for in total.

Names of places.	Vessels damaged, stranded, or wrecked.		Lives lost on land or at sea.	Amount of property reported in dollars.	Buildings damaged or destroyed.	Remarks.
	Small.	Larger.				
CAPE BRETON.						
Ainslee Lake					6	
Aspy Bay		1				
Arichat		56			200	
Bras d'Or		1	(*a*)			
Bonnecadie					60	
Baddeck, Victoria County					30	
Baysdale, near Grand Lake					20	
Boulederie					30	
Black Rock Light	1	5	(*b*)			Wharf damaged.
Big Bras d'Or		1	(*a*)			
Cow Bay	27	29	1	$200,000		Breakwater, docks, an wharves damaged.
Creighton's Head					(*c*) 1	
Canso, town, harbor, and vicinity	(*d*) 260	3		(*e*) 100,000	100	Wharves and chap damaged.
Carriboo Cove, (Straits of Canso)		1	(*a*)			
Cape Breton		(*f*) 100		(*g*) 200,000		
Cape Dolphin			(*h*) 3			
Cheticamp		1				
East Bay					82	
Fourché						
Glace Bay		4	1			
Ingonishe	(*i*)	1				
L'Ardoise			1		30	
Lingau		4				
Louisbourg		17				
Loch Lomond			1		39	
Myra (or Mire) Bay		2				Two bridges and o church damaged.
Main-a-dieu	(*k*)	7				Wharves damaged.
North Sydney		37	(*l*)			Wharves, bridges, an church damaged.
Port Caledonia		30				
Point Edward		3				
Petit de Grot		2	(*m*)			
Port Hawkesbury		4	2			
Port Hood		4	22			
Round Island						
Riviere Bourgiese		15	(*n*)	70,000	30	
Sydney	(*o*)	30		(*p*) 75,000	(*q*)	Wharves, dock bridges, and cro damaged.
St. Peter's		2	(*r*)		2	One church damaged.
Scatterie		(*s*) 1	15			

a All hands lost.
b Three vessels; all hands.
c New light-house.
d Several; $1,000 each loss.
e Loss to buildings.
f Included in other items.
g Loss to Halifax underwriters.
h Washed ashore.
i Several boats; not included in total.
k Great; not included in total.
l One schooner lost; all hands; also one ma
m One crew; all hands.
n Two crews; all hands.
o Several; not included in total.
p To shipping.
q Many; not included in total.
r Several; not included in total.
s S. S. Saltwell.

Names of places.	Vessels damaged, stranded, or wrecked.		Lives lost on land or at sea.	Amount of property reported in dollars.	Buildings damaged or destroyed.	Remarks.
	Small.	Larger.				
CAPE BRETON—Continued.						
Ann's		1				
st Bay					16	
ycocomaugh		2				
			47			
crews estimated at ten each			100			
Total	308	264	147	$645,000	545	
GASPE.						
eradorm		2				
ce au Loup					(a)	Wharves destroyed.
nt St. Peter	(b)					
ce	40					
Total	40	2				
LABRADOR.						
tle Harbor			(c)	(d)		
e Charles			(c)	(d)		
e Harrison		3	(e)	(d)		
ian Tickle	(f)	4	(g)			
(position ?)		1	17			
			56			
en crews estim'd at ten each			70			
Total		8	126			
MAGDALEN ISLANDS.						
herst Harbor		(h) 69	3			
ry Island		1				
Bar		17				
gdalen Island	52	(i)(k)66				
asant Bay	(l) 30	4				
Harry Head		1	12			
Total	52	92	15			
NEW BRUNSWICK.						
ch Island, near Buctouche						Bridge damaged.
touche		3	3			Wharf and bridge damaged.
tham				(d)		
e Bald		2				
kaine						Bridge.
ndance						
lian's Point, Shediac		1				English gun-boat.
hibucke		13			1	Wharves and bridges damaged.
John's		1				
diac				(m) 15,000	(b)	

a Unlimited; not included in total.
b Several; not included in total.
c Very large; not included in total.
d Immense; not included in total.
e Three crews; all hands.
f Incalculable; not included in total.
g On land, thirty-seven or more; at sea, two men and four crews.
h Forty-six outside of harbor, twenty-three inside of harbor.
i Including bark Swift.
k included in other items in total.
l Included in item for Magdalen Island.
m To railroad-track.

Names of places.	Vessels damaged, stranded, or wrecked.		Lives lost on land or at sea.	Amount of property reported in dollars.	Buildings damaged or destroyed.	Remarks.
	Small.	Larger.				
New Brunswick—Continued.						
Shemogue		1				
Ship-Harbor Point		1				
Total		22	3	$15,000	1	
NEWFOUNDLAND.						
Cow Head, west coast	(*a*)		(*b*)			
Cape Ray					2	Two churches an crops damaged.
Port Rich		(*c*) 1				
St. John's		1				
Total	20	2			2	
NOVA SCOTIA.						
Albion Mines		3				
Antigonish		5	1	(*d*)		Wharves.
Bayfield, near Antigonish		4				
Ballard Wharf		1				
Black River, near Antigonish					(*e*)	
Bedford, near Halifax						Wharves damaged.
Bedford Rifle Range						Military tents dam'g'd
Beaver Harbor, Halifax County	(*f*)	1			15	Church damaged.
Canso, Straits of	(*g*) 4	(*g*) 19	1			
Cape Canso		3			62	
Cape Jack, Straits of Canso		1	1			
Cape Sable, off		(*h*) 4				
Cape Negro		1	2			
Crow Harbor			1			
Cape St. George		1				
Devil's Island		1	5			
Digby		1				
Frazer's Point		3				
Goldenville					22	
Goose River, near Guysboro		1				
Goose River, Cumberland County		4				
Guysboro		8	1	$30,000	100	Wharves damaged.
Halifax	(*i*)	1	1			
Hantsport		3				
Harbor Boucher, near Antigonish		2				
Irish Cove, near Halifax						
Island Cove	(*i*)					
Isaac's Harbor		4			(*k*) 16	
Kempt		1				
Ketch Harbor	(*i*)	1				
La Boer Harbor		28				From report of Capt F. K. Barr, U. S. rev enue-cutter.
Lennox Passage, Straits of Canso		2				
Manchester					100	
Owl's Head		1				
Port Mulgrave	1	8	(*l*)	8,000		Wharves damaged.
Pictou		24				
Pictou Landing		3				Wharf damaged.
Pictou Island		1				
Point Pleasant		1				
Pirate Cove		4				

a Twenty French fishermen. (?)
b All hands supposed; not included in total.
c Ship Scotia.
d Considerable; not included in total.
e All barns; not included in total.
f A number of: not included in total.
g Included in other items.
h Including ship Ellen Southard.
i Several: not included in total.
k Including church.
l One schooner; all hands; one more drifte ashore.

Names of places.	Vessels damaged, stranded, or wrecked.		Lives lost on land or at sea.	Amount of property reported in dollars.	Buildings damaged or destroyed.	Remarks.
	Small.	Larger.				
NOVA SCOTIA—Continued.						
igwash		(a) 4				
ond's Gulf		1				
igwash Basin		1	2			
mbro		4				
ulee		1				
ud Point		1				
elbourne		1	12			
eet Harbor		(b)			(c) 33	
racadie	5	1	2			
allace		(d) 2				
hite Head		1				
			30			
e crew estimated at			10			
Total	10	149	40	$38, 000	349	
PRINCE EDWARD ISLAND.						
arlotte Town	4	6	(e)			Wharves: railroad-track damaged.
pe Cavendish		1	(f)			
ve Head, north coast		(g) 1				
scumpec Bar		3	(h)			
rnley	1					
st Point Chapel		3				
gg Island		1	7			
olpec		1				
rth Cape		5	(?) 73			
rth Bay		(i) 30	(f)			
ndon		2	(k)			
ince Edward Island		50	(l)			
Do						Twenty-seven more mentioned.
nnette		1				
cky Point		2				
anhope		1	(f)			
est Cape		1	(f)			
			80			
ght crews, estimated at ten each			80			
Total	5	58	(m) 160			
FINAL SUMMARY.						
pe Breton	308	264	147	645, 000	545	Including S. S. Saltwell.
aspe	40	2				
brador	(n)	8	126	(o)	(p)	
agdalen Islands	52	92	15			Including bark Swift.
ew Brunswick		22	3	15, 000	1	Including English gunboat.
ewfoundland	20	2			2	Including ship Scotia.
ova Scotia	10	149	40	38, 000	349	Including ships James Duncan and Ellen Southard.
ince Edward Island	5	58	160			Including ship Mascougas.
Total	435	597	491	698, 000	897	

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a Including ship James Duncan.
b Several; not included in total.
c Including three churches.
d Including ship James Duncan; also included in Pugwash account.
e Two vessels; all hands.
f All hands.
g Ship Mascougas, for Liverpool.
h One vessel; all hands.
i Estimated.
k All hands supposed lost.
l Drifted ashore; included in other items.
m Not including the thirty crews reported lost in North Bay.
n Incalculable.
o Immense; not included in total.
p Unlimited.

APPENDIX No. XII.

Approximate positions adopted for the Nova Scotia cyclone of August 24–25, 1873.

	Latitude.	Longitude.
August 13.	14 north.	27 west.
* * *	* * *	* * *
August 18 noon	20	60 west.
August 19 noon.	22	63 west.
August 20 noon.	27	66 west.
August 21 noon.	30	67.5 west.
August 22 noon.	33.5	68.5 west.
August 23 noon.	37	67 west.
August 24 noon.	41	61.5 west.
August 24 midnight.	44	56 west.
August 25 noon.	44.5	54.5 west.
August 25 midnight.	46	52 west.
August 26 noon.	47.5	50 west.
August 27 noon.	49.5	44.5 west.
* *	* *	* *
August 29	(54?)	(29?) west.
* *	* *	* *
August 31	57	15 west.
September 1	58	6 west.
September 2	58	4 east.

PAPER 29.

LIST OF DISASTERS TO SHIPPING UPON THE GREAT AMERICAN LAK DURING THE YEAR 1873.

JANUARY.

2d.—Schooner E. M. Shoyer adrift; caught in the ice and abandoned off Chicago.
3d.—Propeller Ironsides slightly damaged by ice at Milwaukee.
Steam ferry-boat Victoria broke her machinery at Detroit.
Propeller City of Fremont disabled by striking the bar at Grand Haven.
4th.—Steam ferry-boat Detroit had her sides broken by running ice at Detroit.
10th.—Propeller Messenger disabled while breaking ice in Milwaukee River.
16th.—Propeller Manistee disabled on Lake Michigan by losing wheel; towed to Milwaukee.
23d.—Propeller Messenger slightly damaged on Lake Michigan.
A sail-yacht in the ice off Bass Island, Lake Erie.
24th.—Propeller Manistee detained by ice off Milwaukee.
27th.—Propellers Manistee and Messenger ice-bound on Lake Michigan.
30th.—Propeller City of Fremont detained three days by ice twenty-five miles Milwaukee, on Lake Michigan; obliged to use bacon for fuel.

FEBRUARY.

(Ice unusually extensive on Lake Michigan.)

2d.—Steamer Transit aground near Detroit.
4th.—Propeller City of Fremont cut her way through the ice at Milwaukee, but co pelled to return without reaching Grand Haven.
9th.—Propeller City of Fremont made another unsuccessful attempt to cross La Michigan. Ice supposed to extend entirely across the lake; a fact never befo known. Tug Tempest sunk at Grand Haven.
20th.—Propeller City of Fremont again failed to penetrate the ice in the lake.
28th.—Propellers Manistee and Messenger have remained ice-bound on Lake Mich gan, off the east shore, during the entire month.

MARCH.

ake Michigan supposed to be frozen entirely across except, perhaps, some cracks.)

—Propeller Manistee fast in ice five miles off Lincoln, on east shore Lake Michigan. Has been in ice thirty-seven days.

Propeller Messenger a little north of Stony Point.

th.—Propeller Messenger four miles off Little Point Sauble.

Propeller Manistee got to within one mile of Lincoln.

th.—Propeller Saint Joseph detained by ice at entrance of Milwaukee Harbor. Got out, and returned to port 14th.

th.—Ferry steamer Favorite driven against her dock and damaged by a heavy gale at Detroit.

th.—Propeller City of Fremont got through ice-belt at end of Harbor of Milwaukee.

th.—Steamer City of Sandusky damaged by fire at Detroit.

th.—Propeller Messenger four miles from Ludington, in ice.

Propeller Manistee still near Lincoln, in the ice.

Tug Anna Dobbins damaged by ice and sunk at Cleveland.

th.—Tug Tempest damaged while breaking ice at Grand Haven.

st.—Propeller Manistee still ice-bound near Lincoln. Has been on the lake in ice fifty-three days.

Propeller Messenger has been carried south by moving ice.

d.—Propeller City of Fremont seen in the ice twelve miles from Saint Joseph, having been driven about the lake for a week. Returned to Milwaukee 27th.

th.—Propeller Manistee reached Ludington Harbor all right.

Navigation across Lake Michigan opened, having been interrupted by ice for two months.

th.—Propeller Messenger reached Milwaukee, having been detained by ice on Lake Michigan since January 26.

Scow Ida H. Bloom damaged by colliding with Clark street bridge, Chicago. Damage $100.

th.—Steamer B. F. Ferris frozen in between Middle Bass Island and Put-in-Bay, Lake Erie.

st.—Schooner Alice forced ashore by ice near Point-au-Pelee, Lake Erie, and scuttled.

Tug Leviathan damaged by ice in Lake Michigan, and returned to Milwaukee.

Steamer Dove damaged by ice in Detroit River.

APRIL.

.—Scow Raven dismasted by colliding with a bridge at Toledo.

.—Propeller City of Fremont damaged by ice on Lake Michigan. Repaired at Milwaukee.

Sandy McGuire, a sailor, fell from a mast 88½ feet, and fatally injured, at Chicago.

h.—Schooner Caroline Marsh lost jib-boom at Charlotte, Lake Ontario.

h.—Light-house at Erie blown down.

Schooner Aldebaran lost foremast by lightning at Buffalo.

h.—Steamer Dove ran ashore at Ecorse, Detroit River. Got off.

h.—Schooner Topsey and scow Gladiator lost bowsprits and jib-booms by collision at Chicago.

h.—Schooner Gamecock damaged by striking on pier at Chicago.

th.—Scow R. D. Owen damaged by ice at Sheboygan.

Steamer George S. Frost broke her wheel on Lake Huron.

Steam-barge Mary Nills broke from her moorings and drifted ashore at Detroit.

Steam-barge Whetmore and two vessels ran ashore on Belle Isle, Detroit River.

th.—George Eyre, of propeller Grace Dormer, fell overboard and drowned, near Algona, Saint Clair River.

Steamer Mason broke her shaft in Saginaw River.

th.—Barge Mary Stockton broke from her moorings at Detroit, filled, and sunk.

th.—Barge Lothair broke her rudder at Oswego.

th.—William Duncan, sailor of schooner Knight Templar, fell from foremast and was seriously injured at Oswego.

th.—Schooner J. J. Hill ran on East Island, Oswego, and stove a hole in port bow; 2,300 bushels grain wet.

A sailor fell from yawl of schooner Flying Dutchman in Niagara River, and was drowned.

th.—Steamer City of Toronto stove in her paddle-box by drifting on piles at Niagara.

Tug John Martin lost rudder at Detroit. Recovered by divers.

Steamer City of Dresden ran aground on Belle Isle, Detroit River. Got off.

th.—Steamer Sheboygan damaged by collision at Sheyboygan.

Schooner Lewis Ludington lost jib-boom by collision with steam-barge Micha Grot at Chicago.

19th.—Several vessels fast in ice on Lake Michigan.

Barge J. D. Crow drifted on dock at Chatham, Ontario.

20th.—Schooner Citizen sunk and broken up at Fairport, Ohio.

Propeller Benton ran upon middle ground at Port Huron and broke her wheel.

Captain Hume and a sailor of schooner S. J. Collier severely injured by breaking rope, at Oswego.

Schooner Canadian lost jib-boom by collision with schooner Netta Woodward, Oswego.

21st.—Steamer Metropolis damaged by collision with bridge at Manistee.

Schooner Denmark damaged by being run into by steam-barge Michael Grot, Chicago.

Scow, loaded with 130 tons of iron-ore, foundered off Lyons Point, Lake Ontario.

Steamer Seneca struck a snag and sunk near Windsor, Ontario.

22d.—Schooner Mermaid lost bow-sprit and jib-boom by collision with Kitty Gra at Chicago.

Schooner Raleigh damaged on piers at Chicago.

Scow Moneymaker lost bow-sprit by collision with ferry-steamer at Detroit.

23d.—Steam-yacht Clara lost smoke-stack and upper works by collision with schoo Cornelia Amsden, at Detroit.

A dredge sunk by ice at Manitowoc.

Schooner Gamecock damaged on harbor pier, Chicago.

Barge M. Grot lost mast by running into a bridge at Chicago.

Schooner Lucy Graham lost foremast by collision with schooner Wilcox, Chicago.

24th.—Schooner Mary Booth arrived at Chicago leaking badly.

Scow Vampire ran ashore on Chick-a-nola Reef, Lake Erie.

Francis McCavitt, sailor on schooner Thos. H. Mott, fell from mast and fata injured, at Buffalo.

Schooner Waleska sprung a leak at Sheboygan.

25th.—Barges Banner and Rio Grande ran aground on Saint Clair Flats; got without damage.

26th.—Schooner Negaunee sprung a leak in the ice on Lake Erie.

Steamer Saginaw broke machinery on Lake Michigan.

Steam-barge Trader slightly damaged by fire.

Schooner White Oak damaged by collision with a bridge at Kingston.

Steamer Milton D. Ward broke wheel in ice at Port Huron.

Schooner Richard Mott lost rudder by ice at Poonto pier, Lake Michigan.

Schooner Sweet Home driven ashore at Wolfe Island, near Kingston, by the i got off; slightly damaged, and towed to Kingston.

28th.—Schooner Grenada arrived at Toledo after a perilous passage; 2,075 barr salt lost overboard on the trip from Oswego.

Schooner Wanderer ashore on Kelly's Island; raised and towed to Cleveland.

Scow Sea-Bird ashore on Kelly's Island during a snow-storm.

30th.—Steamer Magnet ashore on Kelly's Island.

MAY.

1st.—Bark T. B. Rice ashore at Kelly's Island, Lake Erie.

Schooner John M. McGee damaged by fire on Lake Huron.

2d.—A sailor named Jorkill Oleson, of schooner Hibbard, fell from mast and bro his leg, at Chicago.

Schooner Curlew crushed her anchor through her hull and became water-logged, Chicago.

Scow Planet parted anchor and went ashore at Evanston, Lake Michigan; got slightly damaged.

Scow H. G. Williams, coal-laden, hard aground on Carrolton Bar, Saginaw Bay.

3d.—Schooner Trenton, grain, ashore near Port Colborne; got off and towed to port

Schooners H. G. Cleveland and City of the Straits ashore at Long Point, Lake Er got off.

Geo. Terry, captain of barge Poland, fell overboard and drowned off Port Austin

Schooner Lyman Casey beached near Marblehead, Lake Erie; got off slightly da aged.

Propeller Champlain broke wheel in ice at Milwaukee.

Bark Erastus Corning aground at Buffalo.

Schooner D. Dousman lost jib-boom by collision with scow Rust, at Cleveland.

Tug Hagerman broke wheel in ice at Milwaukee.

Schooner Maine damaged by collision at Chicago.

Propeller Thos. A. Scott broke her wheel at Erie.

Schooner Wm. Sturges lost jib-boom by collision with propeller Union, at Chicag

Tug Tifft damaged by ice in Milwaukee Bay.
Schooner Tranchmontagne damaged by squall in Lake Erie.
David Myers, sailor on schooner Sea Gem, fell overboard and drowned off Manitowoc.
.—Bark John Mumm sunk at Kingston.
Tug Perew damaged at Buffalo.
Steamer Canada sprung a leak and was towed ashore near Turtle Light, Lake Erie; fifteen thousand bushels corn damaged; got off and towed to Toledo.
John Campbell, watchman of propeller Vanderbilt, fatally injured by falling into the hold of the propeller at Buffalo.
Scow I. M. Hill broke main-boom on Lake Michigan.
.—Schooner Jennie Powell sprung a leak off Toledo and put back to port.
.—Schooner Catchpole lost jib-boom and bowsprit by collision with schooner Lake Forest, off Big Point Sauble, Lake Michigan.
Schooner Challenge damaged by collision at Ludington, Michigan.
Tug Sarah Daly damaged by fire at Ogdensburgh.
.—Schooner R. P. Mason damaged by colliding with railroad bridge at Milwaukee.
Schooner Riverside lost jib-boom by colliding with a bridge at Chicago.
Tug Goodnow broke her machinery in Detroit River.
Tug Annie Dobbins had her stern damaged by collision in Detroit River.
Schooner American Union ashore at Bois Blanc Island, Straits of Mackinac.
.—Propeller Arizona sunk by collision with propeller E. F. Blanchard at Saint Clair Flats; raised and towed to Detroit.
Schooner John T. Mott ran upon a reef near Fox Point, Lake Michigan; got off without damage.
George Sweeny, second engineer of tug Wilcox, killed by machinery at Port Huron.
Steamer Favorite lost anchor in Detroit River.
Schooner Eliza Fischer caught fire off Oswego; 12,000 feet lumber thrown overboard before fire was extinguished.
Propeller Menominee and steam-barge Selah N. Chamberlin ran ashore at Bois Blanc Island in the Straits during a fog; got off.
.—Propeller City of Concord damaged by collision with schooner Geo. C. Finney, in tow of tug Merrill, at Milwaukee.
Schooner Cape Horn sunk by collision with propeller Java near Long Point, Lake Erie; crew saved, except Mrs. Jacobs, the cook, who was drowned.
Propeller Manistee struck beach at Port Washington, Lake Michigan, during a fog; got off.
h.—Propeller Meteor damaged her machinery at Detroit.
Scow U. S. Grant capsized by ice in the bay at Milwaukee.
Schooner W. J. Whaling carried away her main-rigging by colliding with a bridge at Milwaukee.
Bark Gen. Burnside injured by ice off Point Aux Barques; repaired at Detroit.
Schooner Ben Moe and scow Monitor damaged by the ice on Lake Michigan.
Schooner Keweenaw damaged by ice at Detroit.
h.—Tug M. J. Mills sunk off Sand Beach, Lake Huron; crew saved.
Schooner Cornelia ashore at Menominee, Green Bay; got off with slight damage.
Captain Eades, of schooner Frank D. Barker, had his jaw broken in two places by the handle of a winch.
Steamer Spartan ran ashore on Nine-Mile Point, Lake Erie, during a fog; got off.
Barge Bessie Smith lost anchor at Springwells.
h.—Schooner Advance lost jib-boom on Lake Michigan.
Schooner Amanda damaged by being run into by propeller Gen. Payne.
Schooner J. A. McDonald sunk at Oswego; raised and repaired.
th.—Schooner Telegraph damaged by colliding with a bridge at Oswego.
Schooner Maria Annette lost center-board on Lake Ontario.
Schooner Kate Kelly damaged by collision at Oswego.
h.—Scow Newell Hubbard, lumber-laden, ran ashore on Belle Isle, Detroit River.
Steam-yacht Dime sunk at Lambton, Saint Clair River, by striking on pile.
Schooner Mary Battle arrived at Port Colborne in a dismasted condition, having lost main and mizzen masts during a squall on Lake Erie.
Tug Mystic broke her shaft on Saginaw Bay.
Propeller Lady Franklin broke her wheel at Marquette.
Bark Red, White, and Blue sprung a leak at Buffalo.
th.—Steamer Eighth Ohio broke machinery on Lake Huron.
Schooner Netta Weaver sprung a leak on Lake Huron.
Propeller Oconto collided with steamer Sheboygan, at Manitowoc, cutting through the steamer's guard to the main-deck.
th.—Schooner Surprise ashore at Kingston.
Schooner Jessie Scarth ashore at Point Frederick; got off with slight damage.
th.—Tug Maria Melvin burst her boiler at Oswego.
Steamer Nashua aground on Fighting Island; got off.

20th.—Bark Chandler J. Wells, corn-laden, collided with schooner Havana, off M waukee. The Havana lost bowsprit, jib-boom, and head-gear. The Wells w damaged to the extent of $1,500 or $1,600, and was towed back for repairs.

Steamer Muskegon broke her connecting-rod off Muskegon.

21st.—Scow Minnie Corlette capsized and filled with water at Pentwater. Rais and towed inside, and capsized again.

Barge Lillie May damaged by collision with barge Paragon at Windsor.

Schooner Alice B. Norris ran ashore on South Fox Island during a fog. One hu dred and fifty tons coal jettisoned. Got off with $1,200 damage.

22d.—Schooner Cascade lost bowsprit by collision with propeller Meteor at Ma quette.

Albert Anderson, a passenger on steamer Dime, fell overboard and drowned at O tario.

Alexander Jessamer, of schooner Mears, fell upon deck and killed near Manit Islands.

23d.—Patrick O'Donell, second engineer of propeller City of Detroit, killed by fa ing through hatchway at Detroit.

24th.—John Breen, sailor, fell from a mast at Bay City, and was fatally injured.

Barge Ocean towed to Detroit leaking.

Schooner "E. C. L." ran ashore during a fog at Washington Harbor. Got off wit out damage.

Propeller Georgian ran upon a shoal in the channel opposite Gananogue, and spru a bad leak.

25th.—Propeller Milwaukee ran ashore in Saint Clair River. Got off witho damage.

Schooner Cecelia ashore on Black Creek, near Muskegon, Michigan.

26th.—John Maythem, engineer of tug Frank Perew, seriously scalded at Buffalo.

Schooner Willie Keller lost mizzenmast by colliding with bridge over Wella Canal.

Schooner Grace Murray, iron ore, ashore on Charity Shoals.

Propeller Mohawk ran ashore at North Point, Milwaukee, during a fog. Got without damage.

John Gillan, captain of schooner W. H. Converse, drowned in Lake Ontario.

27th.—Schooner Traveler ashore at Sheboygan. Got off without damage.

Schooners John Miner and Pilgrim damaged by collision at Chicago.

Schooner Gem lost head-gear, jib-boom, and bowsprit by collision with propell Alaska off Kenosha, and was towed back to Chicago.

Barge Mercury lost mainmast and schooner J. C. Harrison damaged to the extent $1,000 by collision at Chicago.

Schooner Reuben Doud ran ashore on East Sister Reef, jettisoned 1,800 bushels wheat, and got off.

Canal-boat P. Quin sunk at Oswego; 3,500 bushels wheat damaged.

28th.—Tug Allanson Sumner, with barges in tow, collided with schooner Jes Scarth, and twisted off her stem, and schooner put into Kingston leaking badl

29th.—Schooners Gesine and Portland damaged by collision at Milwaukee durin squall.

Schooner Honest John struck against a pier at Chicago during a storm; badly da aged.

Schooners C. C. Butts and Cousin Mary towed into Chicago water-logged.

Bark Montmorency lost jib-boom and head-gear on Lake Erie during a storm.

Schooner Empire State lost jib-boom and foretopmast and sprung her foremast Lake Erie during a storm.

Bark Monitor aground on Peach Island, Saint Clair River.

Schooner Seventh Ohio had her bow stove in at Michigan City.

Schooner Jura ashore near Port Peter light.

A man named Tyrle was fatally injured by a fall from propeller Lake Michigan Kingston.

Edward Bowler, sailor on scow Industry, jumped overboard and drowned near P Huron.

Scow Ella Doak lost jib-boom at Racine.

30th.—Steam barge Eclipse ashore on Grassy Island, Detroit River.

Canal-boat H. Farrell sunk by propeller St. Lawrence at Montreal.

Schooner St. Peter arrived at Chicago with all her bobstays broken.

Propeller Meteor broke her wheel at Marquette.

Schooner Hungarian arrived at Chicago minus her small boat.

Bark Tanner and schooner Swallow collided in Point-au-Pelee passage. Swall towed to Milwaukee, having lost her bowsprit and head-gear by the collision.

31st.—Schooner E. A. Nicholson ashore and scuttled near Erie. Raised and towed Erie.

Propeller Equinox ashore in Detroit River.

John Gray fell overboard and drowned from lighter Perkins at Bay City.

JUNE.

t.—William Spence, a sailor on schooner W. F. Merrick, fell overboard and drowned in Lake Ontario.

Tug Fulton lost rudder at Oswego.

l.—Barge Magnet became water-logged by collision with a barge in tow of tug Jesse Hall, and was towed to Oswego.

l.—Scow Mary Jane driven ashore by a storm on the east point of Put-in-Bay.

Schooner W. P. Allen struck State-street bridge, Chicago, carrying away jib-boom and head-gear.

Schooner William Jones lost jib-boom and head-gear by collision with schooner Gladiator off Chicago.

h.—Propeller City of Chatham burned to the water's edge at Hamilton, Ontario; seven hundred barrels of flour burned.

Schooner I. D. Hungerford had her foretopmast splintered by lightning at Toledo.

Scow Lime Rock struck a snag and sunk in the Thames River. Raised and repaired.

Schooner Crossthwaite damaged by collision at Buffalo.

h.—Propeller Peerless lost key of wheel off White Fish Point, Lake Superior. Towed to Sault Ste. Mary.

Schooners Quinlan and Jennie Graham collided at Welland Canal.

Scow Mary Amelia driven ashore in Saint Clair flats by a squall and lost staysail, mainsail, and anchor.

Bark Dundee ashore at Morgan's Point, Lake Erie; got off with slight damage.

Scow Blue Bell lost canvas on Lake Michigan.

Schooner Warren badly damaged by collision with propeller Bertschy off Vedder's Pier, Lake Michigan, during a fog.

h.—Steamer Minnie Sutton broke her crank in Saginaw River.

Schooner Cascade ashore on Point-au-Pelee; got off with slight damage.

h.—John Bearley, sailor on schooner Echo, drowned at Oswego.

Propeller Meteor burned at Detroit; a total loss. Andrew Briggs, colored porter, burned to death.

Schooner City of Manitowoc ran ashore at Racine; lightened off without serious damage.

h.—James McLaughlin, sailor on schooner Amaranth, fell overboard and drowned near North Manitou, Lake Michigan.

Barge City lost bulwarks and deck-load of lumber in Detroit River, by shifting cargo.

Schooner C. N. Johnson broke her mast on Lake Michigan.

A man named Bushey drowned by falling overboard from steamboat Anglim, at Kingston.

h.—Schooner Catchpole lost head-gear and had her bow stove in by collision at Chicago.

Tugs Nagle and Geo. W. Wood damaged by collision at Chicago.

P. Duffey, sailor of schooner Madeira, killed by a fall from mast at Port Colborne.

Schooner D. Freeman and barge Wm. Cowie became fast in the locks at Port Dalhousie.

Schooner Annie Sherwood ashore at Herson's Island; got off without damage.

Propeller Passaic collided with bridge at Cleveland.

Schooner Milwaukee Belle lost jib-boom by running into a dock at Chicago.

th.—Tug Gardner broke her shaft at Buffalo.

Schooner Mary E. Perew ashore in a fog at Crawford's Quarry, Lake Huron; got off and towed to Detroit.

th.—Schooner Gen. Worth, coal, ran hard aground on Grassy Island, Detroit River; got off and towed to Detroit.

Steamer Comet hard aground in Saint Clair River.

Propeller Favorite ashore at North Point, Milwaukee.

Steamer A. Eaton and a barge with lumber ran ashore on North Point during a fog.

th.—Barge Royal Oak, with 14,000 bushels wheat, run into and sunk by propeller Dromedary in Saint Lawrence River.

Schooners Ida and A. Rust collided at Chicago. The Ida had her bulwarks stove in, and the A. Rust lost jib-boom and head-gear.

Schooner Peter damaged by collision with barge Herschel at Chicago.

Elias Seelye, captain of lighter General Case, drowned at Saginaw City.

Bark Massilon ashore at White Fish Point; got off after having jettisoned deck-load of ore.

th.—Schooner C. C. Trowbridge lost bobstays and head-gear by collision at Chicago.

Schooner W. G. Grant ashore near Manistee; a total loss.

Schooners Emma and Island ashore at Frankfort, Michigan.

A sailor of propeller Kincardine drowned off Toronto.

Propeller Lake Breeze disabled on Lake Michigan and towed to Grand Haven.

Joseph Gregory, sailor of barge David Andrew, fell overboard and drowned
Toronto.

15th.—Schooner Rush sprung a leak on Lake Michigan, near Muskegon.
Propeller Alleghany aground on Saint Clair flats.

16th.—Schooner Racine struck pier at Chicago and stove a hole in her side.
Propeller Toledo ashore on Graham Shoals in the straits; got off without dama

17th.—Tug Bartlett badly damaged by collision with propeller China at Detroit.
Schooner William Crossthwaite aground in Nebish Rapids, Saint Mary's river;
off slightly damaged.
Schooner Great West lost foretopmast during a heavy squall on Sturgeon Bay.

18th.—Schooner Emma Leighton lost jib-boom by being run into by steam-barge
T. Graves, at White Lake, Lake Michigan.

19th.—Propeller Toledo and schooner C. North damaged by collision at Chicago.
Steam-barge Kitty Friel burned to the water's edge at Newborough.
Schooner Senator ashore at Pipe Island, Lake Superior; got off and towed to M
quette.
Propeller Hurd broke her shaft on Lake Michigan; towed to Northport.
Tug Laketon lost raft of timber during storm on Saginaw Bay.
Steamer Minnie V. sunk at dock at Superior City; raised and repaired.

22d.—Tug Wm. Goodnow lost raft off Rond Eau.
Schooner Miami lost foretopmast and head-sails during a squall off Rond Eau.
Tug Tillinghast badly damaged by striking dock at Erie.
William Brand, sailor on schooner H. P. Murray, was drowned at Chatham.
Thomas McKeon, sailor on schooner J. V. Ford, fell overboard and drowned in La
Michigan.

21st.—Schooner A. B. Moore totally dismasted during a squall on Lake Michigan.
Schooner J. A. McDonald sunk at East Cove, Oswego; got off slightly damage
Steamer Minnie Sutton blew out her cylinder-head.
Schooners Fostoria and C. North collided at Chicago.
Steamer Magnet ashore in Saint Clair River; got off.
Steamer Grace Dormer broke machinery at Port Huron.
Schooners Elvira and Mary Grover damaged by collision at Welland Canal.
Steamer Spartan ran ashore on Lake Erie; got off.

22d.—Tug G. M. Farrar exploded boiler at Port Huron
Propeller Granite State damaged canal at Allanburg.
Schooner Phineas Marsh ashore on South Fox Island.

24th.—Schooner Mosher aground at Chicago.
Schooner John Webber ran ashore below Chicago during a fog; got off, leaki
badly.
Scow Louisa had her bow stove in, and lost foremast and bowsprit, by being run i
by a tow, in Detroit River.
Scow Lizzie passed Detroit in a dismantled condition.
Schooner Charger driven ashore by a tornado near Bar Point, Lake Erie.
Steam-barge Henry Howard ran upon a reef near Port Crescent, Lake Huron.

25th.—Propeller Prussia broke her wheel on Lake Ontario.

26th.—Propeller Pacific and schooner Guiding Star ashore at Detour; got off.
Peter Mills, sailor, of schooner Acontias, drowned at Allanburg, Ontario.
Schooner Goshawk ashore at Detour; got off.
Schooner Gen. Cook passed Detroit in a dismantled condition.
Three tugs ashore at Chicago during a fog.
Captain W A. Smith, of tug Farrar, killed by explosion of the tug at Port Huro

27th.—Steam-barge Petronelle, staves, ran ashore and sunk at Middle Bass Islan
got off, badly damaged.
Tug Mystic broke her machinery at Detroit.

28th.—Propeller City of New York ran ashore during a fog near Oswego; got
slightly damaged.
Tug Kate Felcher filled and sunk in Saginaw River.
United States steamer Michigan ashore on Traverse Point, Lake Michigan; pull
off by propeller Brooklyn.
Steam-barge Monitor struck harbor-pier at Kenosha, and badly damaged rail, &
Schooner Raleigh aground at Milwaukee; got off.
Schooner Kate L. Bruce damaged by collision at Welland Canal.
Steam-barge East Saginaw and tug Brady ran aground in Detroit River; got
without damage.

29th.—Schooner Anna Laura sunk a canal-boat by collision at Chicago; 6,000 bush
corn damaged.
Lighter Bay City sunk while loading at Bay City.
Steam-barge Pittsburgh struck a rock in Niagara River and broke her rudder.

30th.—Steamer Mason stove a hole in her hull and was run aground on Crow Islan
Saginaw River.
James Daniells, sailor, on bark C. K. Nims, fell overboard and drowned, off Racin

JULY.

.—Schooner Charger ashore at Malden; raised and repaired.
Steamer Grace Truscott blew out her cylinder-head at Detroit.
Tug Nellie Cotton broke her wheel at Bay City.
Propeller City of Detroit and barge Guiding Star ran ashore at Oak Creek, Lake Michigan, during a fog; got off without injury.
Schooner Minnie Mueller lost foresail and flying-jib during a squall near Death's Door, Green Bay.
Bark Mary Battle arrived at Port Colborne with foretopmast gone, and the bark Dundee with sails damaged.
Tug Bartlett lost smoke-stack on Detroit River.
Propeller City of New York broke her wheel at Oswego.
Schooner Reciprocity badly damaged by collision with propeller Philadelphia, at Milwaukee.
.—Schooner G. S. Seaver ran into tug Louie Dale near Chicago and split her stem.
Tug Samson and raft of lumber driven ashore by storm at Port Burwell.
Steam-barge Buffalo disabled by breaking shaft off Long Point, Lake Erie.
Schooner Sea Star, schooner Clarissa, and tug Satisfaction, damaged by collision at Chicago.
.—Schooner Provost damaged by squall at Toledo.
Propeller Georgian slightly damaged by fire near Ogdensburgh.
Schooner Guido Pfister and bark Parana collided in the straits.
n.—Bark Constitution, schooners Frank Pereu, Nabob, Comanche, Elida, G. D. Norris, and Col. Cook, damaged by storm on Lake Michigan.
Tug Ida damaged by being run into by propeller Oconto at Chicago.
Schooner R. G. Simmons damaged by colliding with bridge at Chicago.
Peter Galleher, wheelman on propeller M. Groh, fell overboard and was drowned at Chicago.
Schooner Turner and Keller lost all her canvas in the straits.
Schooners D. A. Wells and Zach Chandler, and scow D. R. Holt, lost canvas off Sheboygan.
Ebenezer Jones, sailor on schooner W. F. Allen, killed by falling from mast at Chicago.
Schooner Senator Blood ran on Gull Island Shoal during a fog; jettisoned 1,000 bushels corn and got off.
Schooner St. Andrew struck by lightning and had her mainmast splintered on Lake Michigan.
Schooner Mary Elizabeth damaged by squall on Lake Superior.
Schooners Glad Tidings, Florence, and Correspondent damaged by storm on Lake Michigan.
n.—Bryan W. Hugh, captain of barge Jacques Cartier, drowned in Saint Clair River.
Steamer Philadelphia struck a rock and sunk on Bar Point at the head of Lake Erie. Raised and towed to Detroit.
n.—Tug L. B. Johnson damaged by fire at Chicago.
Propeller Montana broke piston-rod on Lake Erie.
n.—Brig N. M. Standart and schooner Emma Leighton damaged by collision at Chicago.
Schooners Adirondack and Willard damaged by collision at Chicago.
Schooners Dispatch, Red Wing, and Seventh Ohio lost canvas and part of rigging by a squall on Lake Michigan.
Barge Ironton and schooner John Burt aground at Nebish Rapids, Saint Mary's River; got off; Ironton badly damaged.
Steamer Algona broke her wheel on Lake Superior.
Schooner Gipsey and barge Sonora collided at Chicago.
n.—Steam-barge Sanilac broke her wheel at Alpena.
Schooner W. H. Olds lost jib-boom off Sodus, Lake Erie.
Barge I. Bentley damaged her rigging badly by colliding with bridge at Oswego.
th.—Wm. Jung, mate of schooner Arcturus, drowned at Chicago.
Schooner S. J. Holley struck in Racine Harbor; pulled off, and towed to Milwaukee.
Schooners Prince Alfred and Madeira damaged by collision at Saint Catherine's.
Barge Hope became water-logged at Clayton and was towed to Oswego.
Schooner Mariner struck by lightning on Lake Michigan.
th.—Propeller Empire struck a rock and sunk at Gananogue.
Propeller St. Paul broke her machinery on Lake Huron and was towed to Detroit.
Tug J. U. Masters went ashore near the light-house at Port Huron.
Schooner Reuben Doud struck a shoal near Point-au-Pelee; got off slightly damaged.
Schooner Louise McDonald damaged by collision with a propeller off Chicago.
h.—Schooner Ida damaged by a stroke of lightning at Manistee.

Schooner Reindeer struck on beach at Clay Banks and sprung a leak; repaired a Manitowoc.
Tug B. F. Bruce aground in Detroit River.
Ferry-steamer Hattie Brown broke her shaft.
Tug Rob Roy broke her wheel near Oswego.
Barge Herschel and schooner St. Peter collided at Chicago.
Schooner Lomie A. Burton jammed in Lake Erie; pulled off by a tug.
Steamer Ballantine broke her shaft on Lake Erie.

13th.—Propeller Merritt foundered on Lower Saint Lawrence; crew all saved.
Schooner Northern Belle sunk by collision with schooner Annie Vought in the straits; Vought slightly damaged and Northern Belle a total loss.
Schooner Nabob badly damaged by collision with bark Elizabeth Jones near Sheboygan.

14th.—Steamer Northwest broke her wheel at Cleveland.
Schooner Adriatic badly damaged by colliding with schooner Mary off Chicago, during a heavy squall, and had to be towed back.
Schooner City of Milwaukee struck by lightning at Cleveland.
A colored fireman of tug Wm. Pringle drowned in Saginaw River.
Propeller City of Toledo broke her shaft at Chicago.
Schooner Eveline Bates parted her chain and drifted against pier at Kelly's Island.

16th.—Schooner Comanche damaged on Saint Clair Flats.
Schooner Harvest Home lost main-boom during a squall off Grand Island, Lake Superior.

17th.—Patrick McNamara, a sailor on schooner Pilgrim, was drowned off Chicago.
Scow Eugene had her foremast and head-gear carried away by collision with a tow near Marine City.

18th.—Schooner Eureka ashore at Port Colborne; got off.
Tug B. W. Aldrich burned at Ludington.
Tug Mystic broke her shaft on Lake Saint Clair.
Schooner William Elgin sprung a leak and put back to Kingston for repairs.
Schooners Eagle Wing and Donaldson, ore-laden, ran aground on Saint Clair Flats; lightered off without much damage.
Steam-barge City of Port Huron and barge Dictator on the rocks at Nebish Rapids.
Canal-boat Jesse Van Riper sunk by collision at Black Rock.
Schooners Kate Lyons and Welland damaged by collision off Chicago.
Schooner S. J. Luff struck a reef near the straits and damaged her forefoot and keel.

19th.—Steam-barges Fred Kelly and Robert Holland ran aground in Saint Clair Flats.
Schooner E. R. Blake ran ashore in Green Bay; lightered off.
Schooner Gold Hunter struck on bar while leaving Vermillion Harbor; repaired at Cleveland.
Schooner Morning Star lost mainsail and after-rigging by being run into by bark Prince of Wales off Nine-Mile Point, Lake Erie.
Tug A. F. Bartlett broke her cylinder-head at Detroit River.

20th.—Schooner Persian ashore at Evanston; got off without damage.
Propeller Equinox aground on Saint Clair Flats; pulled off by tug Mermaid.

21st.—Propeller Winslow aground at Bar Point, Lake Erie.
Steam-barge Chas. Reitz badly damaged by collision with tug Johnson at Chicago.
Schooner Conquest and tug Wood damaged by collision with tug Harrison at Chicago.
Schooner Enterprise run into by propeller Clematis at Chicago.
William Sinclair, sailor, drowned in Saint Clair River.

22d.—Schooner Barber had her stern badly damaged by being run into by barge Wyoming at Chicago.
Schooner Ariadne ran on the Ducks on Lake Ontario, during a fog; pulled off without damage.

23d.—Tug H. P. Clinton and a vessel ashore at Malden; released without damage.
Schooner Josephine ashore at Pentwater; got off.
Scow Alpena water-logged on Lake Erie; towed to Cleveland.
Barge Sandusky damaged by collision with bark Maria Martin at Milwaukee.
Propeller Bruno ashore in Detroit River.
Propeller S. D. Caldwell damaged stem by collision in straits.
Steamer Jay Cooke broke rudder at Toledo.

24th.—Steamer Ballentine struck a rock at entrance to Detroit River, and sprung a leak; towed to Detroit for repairs.
Schooner E. P. Dorr, corn, ashore on Charity Shoals, Lake Erie.
Schooners Odin and Denmark badly damaged by collision off Ahnapee, Lake Michigan.
Schooner Antelope sprung a leak at Port Huron.

25th.—Schooner Two Brothers lost jib-boom and foremast-head, off Oswego, by a gust of wind—towed back for repairs.

Steamer Abyssinian caught fire on Lake Ontario—extinguished, with but slight damage.
Steam-barge Herald sunk by collision with propeller Dunkirk on Lake Huron.
David Thorburn, mate of Herald, drowned.
Schooner Sunrise had her foremast shivered by lightning on Lake Erie.
Schooner Rival sunk at Bay City.
Wm. Irving, captain of schooner Gilmcar, fatally injured by falling off boom at Bay City.
Tug Hercules broke her crank in Detroit River.
Tug Annie L. Smith badly damaged by collision with tug Nagle at Chicago.
Schooner Gallatin sprung a leak at Erie—raised, and towed to Cleveland.
6th.—Steamer Ball ran upon a pile at Bay City, and was beached to prevent sinking.
Steam-barge Wm. Cowie struck a rock below Alexandria Bay—got off, and was towed to Ogdensburg.
Brig Mechanic sprung a leak while lading at Marquette—raised and repaired.
7th.—Chas. A. Tuttle, deck-hand on propeller Passaic, fell overboard and drowned in Saginaw Bay.
8th.—Tug Ada Allen sunk at Chicago—raised.
9th.—Richard McGuire, of schooner Helen Blood, jumped overboard and drowned off Sheboygan, Lake Michigan.
Nicholas L. Young, of propeller Java, fell overboard and was drowned near Cleveland.
Wm. Fisher, of tug Charles W. Parker, crushed between tug and schooner Tempest at Chicago, and seriously injured.
Peter McFee, fireman on pile-driver at Michigan City, fell overboard and drowned.
0th.—Schooner Emma C. Hutchinson sprung a leak on Lake Erie.
Schooner Fearless sprung a leak on Lake Ontario.
1st.—Antoine Fortan fell overboard from a scow and was drowned off Grosse Point.

AUGUST.

1st.—Tug Blanchard got a log in her wheel at Chicago.
Propeller Nebraska got a log in her wheel at Buffalo.
Schooner Lucky damaged by collision with a propeller off Cleveland.
Nicholas Bartley, mate of Schooner Portage, fell from masthead and seriously injured at Toledo.
Schooner Garibaldi sprung a leak on Lake Michigan.
Steamer Bob Hacket damaged to the extent of $1,000 by being run into by steamer Transit at Detroit.
2d.—Schooner Hattie Johnson lost jib-boom by striking Sixth-street bridge at Milwaukee.
Schooners Knight Templar and Caroline Marsh damaged by collision at Point Peter, Lake Ontario.
Tug Admiral D. D. Porter ran ashore at Oak Point, Lake Ontario. Got off.
Bark Fame sprung a bad leak off Gravelly Bay, and put back to Buffalo.
Scow Sea Star sprung a leak on Lake Michigan.
Schooner Wm. Elgin sprung a leak on Lake Erie.
3d.—Schooner Superior, ore, ran aground near Round Island at head of Sault River; slightly damaged.
th.—Scow Fire-Fly towed to Green Bay in a sinking condition.
5th.—Ferry-boat Milton Cowbright destroyed by fire at Saint Clair.
6th.—Propeller Tioga ashore on Niagara Reef between West Sister and Green Islands.
Schooner A. Rust struck on a rock and became water-logged at Alpena. Raised and towed to Bay City.
Schooner Rob Roy damaged by colliding with a bridge at Chicago.
Propeller Calabria broke her machinery in the Saint Lawrence and was towed back to Kingston.
Tug Adventure broke a lock on Rideaux Canal.
Steamers Princess of Wales and Silver Spray damaged by collision in the bay at Toronto.
7th. A scow overloaded and sunk at Toledo.
Tugs Perry and Satisfaction damaged by collision at Chicago.
Schooner Portage lost her foremast-head during a gale on Lake Erie.
Tugs Dick Davis and Ida H. Lee damaged by collision at Milwaukee.
Schooner Souvenir sprung a leak on Lake Michigan and put into Grand Haven for repairs.
Schooner Arcturus struck on a reef while entering Chicago; towed inside in a sinking condition.
Iron propeller Russia disabled by breaking her wheel near Detroit.
A vessel ran aground near False Presque Isle; 500 barrels salt thrown overboard.

8th.—Tug Prindiville ran into ferry-scow at Tonawanda and cut her in two. Damage, $600.

9th.—Schooner Flying Mist ran foul of schooner Mary A. Wand and lost her anchor. The Wand badly damaged.

Schooners Keith and Regular damaged by collision at Chicago.

Schooner W. H. Willard lost jib-boom on Lake Michigan.

10th.—Steam-barge Vanderbilt ashore at Pike's Bay, Lake Huron.

11th.—Tug H. N. Martin and schooner Melvin damaged by collision with bridge at Cleveland.

Canal-boat Samuel Morgan sunk at Buffalo; 8,200 bushels corn damaged.

Bark Oneonta reached Chicago minus her foretopgallantmast.

Schooner Sardinia arrived at Chicago in a sinking condition.

12th.—Schooner A. C. Maxwell, ore-laden, ashore at Bar Point, Lake Erie. Jettisoned part of her cargo and got off.

John Cadath, sailor on Barge Fulton, seriously injured by a fall through a hatchway at Bay City.

Steam-barge Mary Groh sprung a leak at Cleveland.

Scow Sassacuss ran ashore at Ford Shoals. Pulled off by a tug.

13th.—Barge J. D. Morton, during rough weather on Lake Erie, broke loose from tow of steam-barge Sun, and went to pieces.

Barges Globe and Sunburg run ashore on Kelly's Island. Globe raised and towed to Buffalo, Sunburg to Detroit.

Schooner David Stewart arrived at Cleveland in a leaking condition.

Steamship W. T. Graves put into Milwaukee in a disabled condition. Boiler gave out.

Schooner S. S. Osborn lost her bowsprit and head-gear by collision on Lake Huron.

Scow Senator had her foretop-mast broken and lost canvass during a squall on Lake Erie.

Propeller Shickluna, salt, struck the rocks and sunk on Weaver's Point, Lake Ontario. Raised and towed to Kingston.

A barge reported ashore on Chick-a-no-la reef, Lake Erie.

14th.—Schooner Chapin arrived at Chicago, leaking badly.

Schooner Carolina Marsh lost eight or ten thousand feet of lumber of deck-load by a gust of wind while off Oswego.

Tug W. B. Castle and schooner Ætna shored on Middle Ground at Point Edwards. Got off with slight damage.

Scow-barge H. G. Williams ashore on Cedar Point, Sandusky Bay. Total loss.

Daniel Berry, lock-tender, drowned in the Welland Canal.

15th.—Schooner S. Armsden slightly damaged by collision at Cleveland.

Brig Pilgrim lost her top-sail yards during storm off Chicago.

Steam-barges New Era and General Paine, with barges in tow, put back to Chicago on account of heavy weather.

Charles Nelson, sailor, of bark Carrier, fell overboard and was drowned.

Bark Menominee and schooner Sinai lost their top-sails on Lake Michigan during a storm.

Tug Edward Gallagher exploded her boiler on Torch Lake, Lake Superior. J. H. Olds, of Hancock, instantly killed.

16th.—A sailor, of schooner Minerva, jammed between tugs Lowie Dole and Annie L. Smith at Chicago, and injured so that he died in a few hours.

Barge Sunshine became water-logged and lost deck-load of lumber off Bark Shanty, Lake Huron.

Schooners Addie and Dora disabled by a storm on Lake Michigan. Put into Benton Harbor.

Schooners Gifford and Ætna collided on Lake Huron. One man lost and one badly injured.

17th.—Steam-barges Buffalo and Bradbury had a rough passage across Lake Huron, and barges Sunshine and Saint Clair in tow were water-logged.

18th.—Judson Mesler, sailor on schooner Wm. Jewett, drowned off Sodus.

19th.—Schooner J. Rigler lost part of canvass off Forty-Mile Point.

Schooner Kearsarge became water-logged on Lake Michigan and was towed to Milwaukee by propeller Lawrence.

Alexander Campbell, captain of bark Manzanilla, drowned at Port Dalhousie.

20th.—Henry Alston, sailor of Bark J. G. Masten, fell into river at Buffalo and was drowned.

Schooner Laura ran aground at mouth of River Thames.

Schooner Wm. Jones lost jib-boom, &c., by colliding with bridge at Chicago.

21st.—Steamer Atlantic lost mast by collision at the head of Saint Clair River.

Brig Starlight and schooner Cortez damaged by collision near Mammy Judy light, Detroit River. Schooner Cortez damaged to extent of $400.

22d.—Schooners Japan and Planet damaged by collision off Sheboygan. Planet put into Sheboygan for repairs.

Tug Black Ball cut off the stern of schooner Maria Martin, and damaged her to amount of $1,000 by collision in Detroit River.

Schooner Milwaukee Belle ashore on Chambers Island, Green Bay. Threw deck-load overboard and got off.

John Hunter, mate of schooner West Wind, drowned off Toronto.

Tug Witch of the West broke her shaft at Bay City.

Steam-barge Vanderbilt on bar mouth of the Thames River.

Schooner Laveland damaged chain-flutes, &c., in a jam on Saint Clair Flats.

23d.—Barge Oliver Cromwell and brig Orkney Lass sprung a leak while lading at Marquette, Lake Superior, and sunk beside the docks.

Alonzo Pearson killed by falling from mast of schooner F. Morell.

Steamer Eva English damaged on Saginaw River.

Schooner Express damaged on Lake Erie.

Schooner M. L. Collins ashore in Detroit River.

24th.—Schooners Westchester and Flying Mist damaged by collision at Chicago.

Schooner Mary Collins lost jib-boom and bowsprit by collision with propeller Arizona at Erie.

25th.—A small schooner sunk by striking dock at Chestnut-street bridge, Milwaukee. Raised and repaired.

Barge Saint Clair water-logged on Lake Huron.

Scow Planet sprung a leak at Milwaukee.

Schooner C. Harrison became water-logged at Evanston, and was towed to Chicago.

Propeller City of Fremont burst a flue on Lake Michigan. Detained seven or eight hours.

Schooner A. W. Lacky, ore-laden, broke her rudder on Saint Clair Flats.

Steam-barge Vienna and barge Verona ashore at Presque Isle, Lake Huron. Vienna got off without damage and Verona filled with water.

Steamer Young America ran ashore on Fighting Island.

Schooner S. P. Ely aground in Nebish Rapids.

26th.—Propeller Oneida struck on Belle Isle; aground fourteen hours and got off.

Schooner Marion Egan ashore at Cove Island, Georgian Bay. A total loss.

Schooner Gerritt Smith sprung a leak in the straits. Towed to Detroit by the tug Leviathan.

Schooner Maggie M. Rae water-logged on Lake Erie. Towed to Detroit River and there capsized.

27th.—Schooner Montana, ore-laden, grounded on Belle Isle, Detroit River.

28th.—Schooner Senator passed Detroit in a dismasted conditon.

Alexander Ross, mate of bark Tanner, was drowned at Buffalo.

Bark Acorn put into L'Anse, Lake Superior, in a leaking condition.

Schooner Comanche shifted cargo and arrived at Oswego with nearly 1,000 bushels wheat wet.

Eli Smith, sailor of barge Severn, drowned at Buffalo.

Steam-barge Mary Robertson arrived at Chicago in a leaking condition.

Propeller Waleska broke her wheel at Chicago.

31st.—Propeller Cleveland ashore at Middle Island, Lake Huron. Pulled off with slight damage.

Byron Robinson, of yacht Mazeppa, drowned at Coburg.

Barge Comet became water-logged on Lake Michigan. Towed to Chicago.

Schooner Cambridge struck and sunk while leaving L'Anse, Lake Superior.

RECAPITULATION.

	January.	February.	March.	April.	May.	June.	July.	August.	Total.
Sunk	....	1	1	5	12	8	7	7	41
Destroyed by fire	....	....	....	....	....	3	1	1	5
Damaged by fire	....	....	1	1	3	....	3	....	8
Dismasted	....	....	....	1	....	5	....	1	7
Disabled, damaged, &c	9	....	2	17	31	30	48	29	166
Damaged by collision	....	....	....	14	30	18	38	28	128
Struck by lightning	....	....	....	1	....	1	5	....	7
Water-logged	....	....	....	1	2	1	2	9	15
Sprung a leak	....	....	....	4	4	1	9	18	36
Ashore and aground	....	1	....	14	33	36	33	26	143
Total	....	....	....	....	....	....	....	....	556

Sailors, drowned, &c.

Drowned	....	....	....	2	7	11	11	9	40
Killed by fall, &c	....	....	....	....	3	3	2	2	10
Seriously injured	....	....	....	4	6	....	1	3	14
Total	....	....	....	....	....	....	....	....	64

PAPER 30.

WAR DEPARTMENT, OFFICE OF THE CHIEF SIGNAL-OFFICER,
Washington, D. C., July 26, 1873.

SIR: I have the honor to report as follows: Having, in accordance with Special Orders No. 67, arrived at the scene of the tornado in Iowa, I there, to the best of my ability, endeavored to carry out the special instructions which I had received. The result is contained in the report herewith submitted.

Very respectfully, your obedient servant,

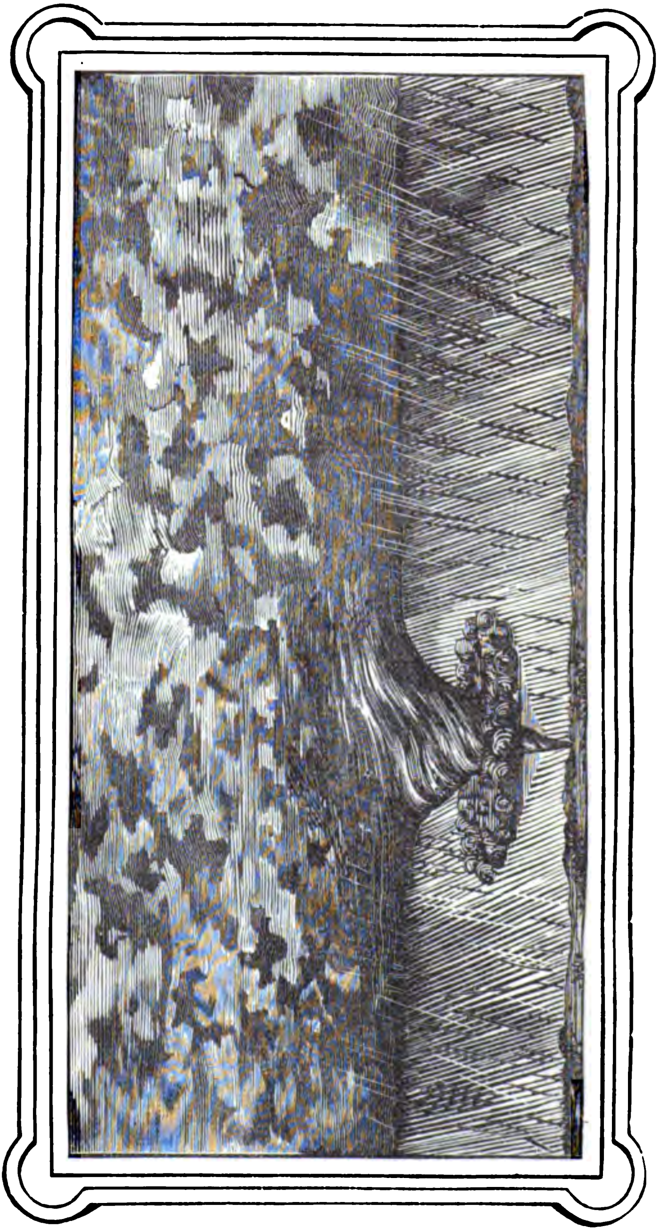
JAS. MACKINTOSH,
Observer-Sergeant Signal Service, U. S. A.

Gen. ALBERT J. MYER, *Chief Signal-Officer of the Army.*

WAR DEPARTMENT, OFFICE OF THE CHIEF SIGNAL-OFFICER,
DIVISION OF TELEGRAMS AND REPORTS FOR THE BENEFIT OF COMMERCE,
Washington, D. C., May 26, 1873.

SERGEANT: Upon arriving at Washington, Iowa, in compliance with Special Order No. 67, O. C. S. O., of this date, you will at once proceed to the scene of the recent tornado near that place, and locating the point where it first struck the earth, will follow its path as far as its progress can be distinctly traced, giving particular attention to the following points suggested by the Chief Signal-Officer:

1. Trace accurately the course of the tornado, and determine whether its movement was direct, or whether it swerved at any time from a direct course, and, if so, the cause of such deflection.
2. Ascertain the velocity of wind in the whirl of the tornado; estimating this, when more accurate data cannot be had, from its effect upon inanimate objects, as for example, weight of objects moved, with area of surface of such objects exposed to the action of the wind.
3. Ascertain if objects were carried directly upward in the interior of the whirl without a whirling motion and thrown out at top, or whether they ascended in circles, whirling upward with the whirl of the tornado.
4. State if there are any evidences that the center of the tornado was a vacuum, as for examples: were trees wholly stripped of bark; did houses explode outward, &c.?
5. Ascertain if the tornado appeared to be attached at its upper extremity to masses of clouds, or to a single and small cloud.
6. Were there any electrical discharges accompanying the tornado?
7. Was the tornado seen, before its complete formation, as a tongue of cloud hanging down from a mass of clouds?
8. Did it any time cross a body of water; and, if so, did it assume at that point the character of a water-spout?
9. Did the tongue of cloud, reaching toward the earth, distinctly whirl itself, or was it stationary, with a whirling column of air rushing up its interior?
10. Collect reliable data as to the greatest height to which objects were elevated, and their weight.
11. Ascertain the condition of air outside the tornado, and whether the wind blew toward it from all directions.
12. Were there any premonitory signs of an approaching storm before the tornado struck the earth?
13. Where did the tornado originate, and where terminate?
14. Determine particularly whether the cloud from which the tongue of cloud depended had a rotary motion, or whether the tongue of cloud itself had one.
15. Duration of tornado, and progressive velocity.
16. Actual width of belt affected by the tornado.
17. Note the general direction of prostration of trees, being careful to allow for the change of direction caused by striking the earth.
18. You will prepare a series of questions to which answers will be obtained from the most intelligent citizens living in and along the track of the tornado, so that the same questions may be answered by different persons.



In addition to these points, you will investigate such others as will tend to give a onnected and full record of the origin, progress, and disappearance of the meteor.

Having completed your investigation of the Iowa tornado, you will proceed to the ocation of the one reported in Illinois as raging on the same date, and follow out the ame course of inquiry as for the Iowa storm.

Take ample time to do the work thoroughly, and report your location from time to ime by telegraph.

Very respectfully, &c.,

H. W. HOWGATE,
Second Lieut. and Bvt. Capt., Acting Signal Officer and Assistant.

Sergt. JAS. MACKINTOSH,
Observer Signal-Service, U. S. A., Washington, D. C.

THE IOWA AND ILLINOIS TORNADO OF MAY 22, 1873.

STATEMENT OF THE FACTS.

This tornado could not by its destructive efforts upon trees, buildings, &c., be traced arther back than section 35, Warren Township, Keokuk County, Iowa. At the point where the destruction commenced, the South Skunk River bends southward and then gain to the east, thus half inclosing a low level area of about one mile in length by alf a mile in breadth. This bottom-land is surrounded by bluffs about 70 feet in eight on nearly all sides, the river flowing close to the bluff on the southwest. It was at the northeast edge of this natural amphitheatre that the tornado first attained orce sufficient to demolish fences. These fences were thrown down by a southwest wind for a space forty rods wide. The buildings of W. W. Morrow, situated half way p the bluff, were partly destroyed. But although its first destructive efforts were here manifested, it by no means follows that this was the starting point of the tornado. On he other side of South Skunk River, directly opposite, there was a strong wind, accomanied with some hail and rain, while to the north and west a tremendous rain fell, receded and accompanied by large hail. The storm evidently arrived at Morrow's arm a well-nigh full-formed tornado. To trace it backward over a country where its henomena were only those of a violent thunder-storm, I found to be difficult and deemed unnecessary.

The attempt to prove a connection between this tornado and the thunder-storm near Des Moines of May 22, 4 a. m., has not been successful. For although the Des Moines torm exhibited tornado-like power, since the distance between Des Moines and Morow's farm is only seventy miles, and since the Des Moines storm occurred ten hours reviously, its rate of motion, if it is identical with the Keokuk County tornado, canot have exceeded seven miles per hour in a straight line. But, as will afterwards be hown, the tornado traveled more than twenty-nine miles per hour. This objection is y no means insuperable when viewed in the light cast upon the subject by the general modes of movement of storm-centers across the continent. These tornadoes, however, xist as something independent and automatic within the limits of areas of low baometer, and since their motion is governed by laws peculiar to themselves, it must meanwhile be accepted as valid. Besides, a hail-storm traversed Keokuk and Washngton counties May 22, at 6 or 7 a. m. There is much more probability of a connecion between this hail-storm and the Des Moines storm of 4 a. m. than between the atter and the tornado which occurred eight hours subsequently.

In the Neosho County Journal, of May 24, is an account of a highly destructive torado which desolated a portion of Lincoln county six miles long by one-half mile wide. This tornado was apparently every whit as violent as that in Iowa. The time at which t occurred is given as about 3 p. m. It cannot, therefore, be identical with the subject f this paper.

The conclusion follows that, wherever this tornado may have originated, it first ttained to desolating violence on Morrow's farm. Its previous history was only that f a thunder-storm, accompanied, perhaps, by an unusual tumult and whirling of the louds. In tracing its development and progress, therefore, I probably labor under no disadvantages which do not necessarily attach to the history of all such meteors exept those arising from the circumstance that the tornado was not at any point of ts progress witnessed by a skillful meteorologist.

Mr. Morrow testified that neither he nor any of his people noticed any funnel-shaped ppearance or tongue of cloud approaching the earth. There was a strong wind for a minute, but the destructive gust appeared to be instantaneous. A smart shower of hail ollowed the gust. A whirling of the clouds was observed several minutes before the wind. A little lightning was seen. The storm traveled east-northeast over Andrew

Surber's farm, blowing down fences, with a southwest wind. He saw the clouds whirling like a great wheel 35° in width before the storm, but did not notice any funnel appearance. A few hail fell with the wind, and a considerable shower of rain after it.

The same phenomena were repeated on J. E. Storer's farm. A steady roar was heard as it approached. No lightning seen.

About forty rods north of the line of destruction on these farms resides William P. Liske. He saw two clouds, one in the southwest and the other in the northwest, which appeared to rush together in the west. As the tornado came up, and about twenty minutes before it arrived, the wind changed to the north and blew so strongly that the door had to be held to prevent it from being blown in. Saw no lightning and heard but little thunder. Saw no funnel appearance.

Elleot Utterback was sixty rods south of the tornado at this place. He saw the clouds come whirling. The height of the whirling clouds was about 60° and the width about 30°. Saw lightning and heard thunder once or twice. Hail followed the wind in small quantity, and rain fell in considerable amount three-quarters of an hour later. During the day the direction of the wind was southerly.

John Malcum, section 30, Lancaster Township, testified: Was one mile south of tornado when it occurred. Heard a roaring like steady thunder in the west about a quarter of an hour before the storm came. Saw no lightning. A cloud covered the western, the northern and the northeastern portion of the sky. It extended somewhat beyond the zenith. The rest of the sky was clear. Saw a whirling mass of clouds. Could distinctly see them whirl contrary to the hands of a watch. The whirling mass appeared to be about 60° high when directly opposite. A smart shower fell some time after the tornado.

On Malcum's farm, the roof of a stable was blown to the southeast. This was the first damage done by a northwest wind. Two hundred yards south of the stable a fence was blown toward the northwest and north. This was the first evidence of a destructive southeast and south wind. The storm after becoming destructive had traveled one and a half miles before it developed force sufficient to commit destruction by a northwest and southeast wind.

T. Dawson, section 31, Lancaster Township: The tornado passed directly over the farm-buildings. He testified: Saw tornado approaching like two dark clouds with an intervening lighter-colored space between them. These two clouds together presented a funnel-shaped appearance; the upper end of the funnel entered the overhanging mass of cloud, which covered the half of the sky and extended to the southeast a little beyond the zenith. Its lower end did not touch the earth. It whirled contrary to the hands of a watch. Its elevation appeared to be about 60°, and its width at summit 40°. Heard some thunder previous to tornado. Did not see any lightning. After the tornado, there fell a few small hail and a little rain.

The breadth of fences thrown down on this farm was about sixty rods. The outhouses, &c., were damaged. A cultivator weighing about two hundred pounds was carried or dragged 30 feet. It presented to the wind a surface of not more than 3 square feet. If it was carried, the lifting force of the wind must have been between sixty and seventy pounds per square foot. The ground showed no signs of its having been dragged.

M. Williams, lawyer, section 32, Lancaster Township, testified: Time, probably 2.10 p. m; it was a few minutes after 2 p. m. Watched the storm as it approached for about one hour. A cloud rose in the west, which, stretching to the northwest, presented the appearance of heavy rain. Previous to the approach of this cloud, the sky was nearly clear. The wind during the day was southerly. About twenty-five minutes after the tornado the wind was again from the southwest. The storm-cloud did not extend far past the zenith to the south. Saw the funnel distinctly. It alternately lengthened and contracted, rose and fell. When it contracted, it appeared as if the narrow point next the earth was cut off, leaving the lower end broader. At times the upper end appeared to reach the overhanging clouds, and at times to be not so high. Its shape was something like It was of a dark-blue color when two hundred and fifty yards distant. When three hundred yards distant it subtended an angle of about 75°. The angle subtended by the top of it at that distance was about 55°. It had a zigzag motion. Half an hour previous to the tornado, there was incessant lightning in the northwest. Heard no thunder. There was no lightning in the tornado. A little rain and hail fell just before the tornado, and a smart rain-shower about twenty minutes after it. Have heard that to the northward there was a terrific storm of rain and hail accompanied with thunder and lightning. The wind was south generally during the day. As the tornado approached, the wind changed to a little east of south. Saw the dark funnel strike the ground on my farm. Saw it whirling contrary to the hands of a watch.

This witness was stationed about twenty-five yards south of the funnel when nearest to it. The fences were generally thrown toward the center on either side; but where the dark cloud touched they were carried away for a space sixty yards wide. We have e the first evidence of the dark cloud touching the earth in perfect funnel-form. But touch is yet only temporary; like a child learning to walk, its footsteps are yet certain. It proceeds with a wavy, zigzag, circular-pendulum motion. By and by its ad will make the earth tremble.

he storm traversed Jones's farm, throwing down fences, until it struck the Wolfden ool-house, which lay near its center. The school was in session when the tornado uck it.

ichard Weller, teacher, testified that this occurred at 2.15 p. m. precisely. This e is valuable, and I have adopted it as one of the data for calculating the velocity the storm. The school-house was moved with the children and teacher in it to the t, the north end 30 feet, the south end 20 feet. It was not overturned. The win- vs, roof, &c., were much damaged, but there were no evidences of explosive ces. The weight of the building was given by Mr. Williams as probably thirty ousand pounds. The surface exposed was 360 square feet, besides the slanting roof. slant of the roof was about 45°. The foundation was stone. It became very dark the tornado struck. After leaving the school-house, which is situated in a slight ine-like depression, the fury of the tornado abated somewhat. Hence, although it s nearly central over the hamlet of Hayesville, the frail houses were scarcely ched.

. U. Alford, who lives a quarter of a mile south of Hayesville, saw the tornado-cloud nging round in a circle like a flock of birds, and every now and again making a dip the ground and darting up again as high as the top of a tree. Its color was very k, inclining to green. The wind, which was south before the tornado, changed to th after it. A little hail fell as the tornado passed.

ohn Stephenson, Hayesville, a little south of the center, testified: Saw no lightning; rd no thunder; considerable rain about a half an hour after the wind.

. G. Konkricht, postmaster, Hayesville, testified: Tornado passed about 2 p. m.; rly perceived the clouds whirling contrary to the hands of a watch as the storm roached; saw lightning to northwest, and north of the tornado-cloud; heard no nder.

. W. Hayes, Hayesville, testified: Watched it for a half an hour previous to its ival; saw two clouds, one in the southwest, and one in the northwest, which rushed ether and appeared to create a whirl; saw the clouds whirling.

I. C. Dickey, who was at Hayesville, saw a cloud rush north, and then strike south h amazing rapidity; these were under-clouds; the whole northern heavens were ered with clouds; saw the funnel; it was of a dark green color and raised and ered itself at the bottom; saw no lightnings; heard no thunder.

. N. Bucher, one mile east of Hayesville, and about ten rods south of the tornado: v a funnel-shape, large at top, small at bottom, of a dark green color. It looked a kettle of soup boiling over. The funnel ended in a large cloud, which did not end much south of the zenith. The bottom of the funnel kept bulging up and vn. Wind was from the south previously. It changed to the northwest as it passed l it grew cooler. At this place only a few fences were thrown down.

V. H. Hawkins, Jordan farm, section 24, Lancaster Township, half a mile north of the rm, and not far from widow Jacob's house, which was destroyed. Testimony: There eared at first to be two storms coming up—one from the west and the other from northwest. A little rain and hail fell before the tornado, and rain in considerable ount after it.

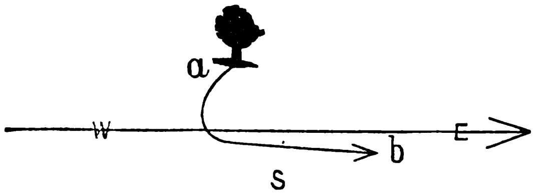
he storm up to this point had been traveling east-northeast. Since leaving South nk River, it had been traversing a rolling prairie, with numerous sloughs, as they are led, but nothing like a water-course. A little to the east of the last witness it struck ublesome Creek, the banks of which are well wooded. No sooner did it do so than ncreased greatly in power, changed its path temporarily to due east, and developed phenomena of two or more funnels or branches of a funnel. Down in the hollow, ong the trees, stood the house of widow Jacobs. It was completely demolished, but thout signs of explosion. The storm-traces were already in great part obliterated, l a new house rebuilt. The path of destruction was two hundred yards wide at s point, and the general aspect of the fallen trees within this limit presented all the pearances of a complete cyclone revolving contrary to the hands of a watch, hough nothing particularly worthy of notice presented itself. About a quarter of nile from the main track to the south, a swath about fifty yards wide was cut ough the fences by a southwest wind. This swath appeared to curve toward the in storm-path, but it was not possible to follow it until it reached it, because of the rseness of the fences, and because there had everywhere on that side of the storm n a strong southwest wind, and this swath was merely exceptionally strong.

he storm-center next traversed the Grout farm, now occupied by Samuel Brunt, l passed about one hundred yards to the north of the village of Lancaster. Here operations became more interesting.

Samuel Brunt testified: Heard it roaring a long time before it arrived; as it ap- oached saw two funnels distinctly; their summits were lost in the overhanging

mass of dark cloud. Saw funnel on the south side, which was the smaller, sw
around in a half circle and join the larger one. The funnel had a pendulum moti
When it struck the ground it seemed to smoke, the smoke surging up like spray u
a wave-beaten rock. The wind felt cold as it passed. Saw lightning during torna
The breadth of the dark apex of the main tornado when it touched the ground
peared to be about 100 feet. There the wheat was mown as with a scythe.

The breadth of the path of the storm of sufficient power to throw down fences
here two hundred yards. The fences on the north side were blown south, those on
south side north, while along the center everything was carried east with the sto
An apple-tree, 7 inches in diameter, which had stood on the north side of the cen
was carried first fourteen yards south, with a little westing, then round in a regu
curve twenty-four yards toward due east, and then due east for seventy yards.
beam 2 inches by 4 inches by 14 feet, and weighing twenty-five pounds, was dri
into the ground 3 feet 9 inches at an angle of 35°, after having been carried thirty-
yards from the barn-roof. The following is a sketch of the path of the apple-tree
stood at *a* and was carried to *b*:

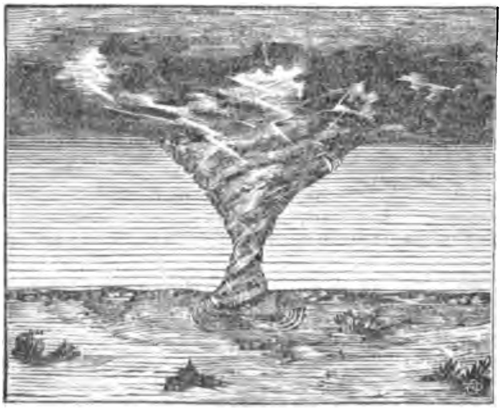


J. B. Jacobs, Lancaster
lage, witness: Saw distinc
two whirls, the north one be
the largest.

William Davis, Lancas
Village, witness: Watched
for perhaps an hour previ
to its arrival. Heard it for
an hour. Saw funnel w
half a mile distant. The s
mit of it was lost in very dense clouds. It was funnel-shaped. The elevation of
summit was about 15°. It appeared to be about as high as the summit was bro
The top was twice or thrice as broad as the base. The clouds above it did not app
to whirl. Saw lightning during the tornado and heard thunder above the roar of
tornado. Previously the wind blew from the southeast strongly. After it passed
blew from the northwest. Saw boards whirling round in the funnel.

Mr. Beall, witness: Was on north side of storm, half a mile from its edge. It
peared like a funnel, and perfectly black. Saw rails whirling in it. The upper cl
into which the funnel went did not whirl. It subtended an angle of 55°.

Fred. Tollman, Lancaster Village, testified: Was within the edge of the torna
Was whirled like a top for fifty yards and lodged against a fence. Observed it
more than fifteen minutes before it came. Saw trees twisting in the grove half a
distant. Saw the funnel whirling contrary to the sun. Its summit was lost in o
hanging cloud. Thinks the upper cloud was also whirling. Saw only one fun
Saw lightning flash up and down the funnel. Saw a tree thrown out from the to
the funnel about one foot in diameter. Top of funnel 60° high when seventy yards
There were two funnels with the small ends together, thus, the upper one being
largest:



The above description all
fers to the lower one. It ha
before the tornado about
large as hen's eggs.

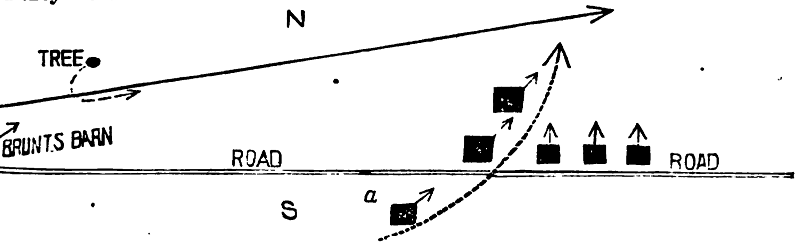
Austin Jacob, about hal
mile north of the edge of
tornado. Testimony: Saw
funnels seperimposed, with
small ends together. The
per funnel was much the dar
and larger.

L. W. Low, Lancaster
lage: Mr. Low's house st
south of the principal port
of the village, and near the c
ter of the tornado. Testimo
Was in the house when
tornado came. The southw
corner was lifted off the grou
The floor was then driven
toward the roof, and the ho
went to pieces. Was seve
injured. Was wet and covered with mud. Felt very cold. Felt warm soon afterwa
Seemed to be surrounded with a heavy mist. Saw only one funnel. Saw lightning
both sides of it.

The last witness has weak eyesight.

C. Jacobs, Lancaster Village: Witness was one hundred yards south of the edge. pe was like a funnel, point up.

his completes the evidence for the village of Lancaster. It is somewhat discordant, ather, various. Some saw only one funnel; some two funnels, side by side; and rs two funnels superimposed, with the small ends together. The discrepancies are, ever, easily accounted for. As the cloud approached, it grew very dark. The tor- doubtless changed its form rapidly. The observers took a glimpse at it and ran ttend to their houses; or, as in the case of Follman, had to watch it under difficul- Those who saw two funnels appear to have seen through the center of what aped to those at a greater distance as only one funnel with the larger end down. evidence afforded by the ruins in the path of the storm gives no support whatever he belief that there were two distinct whirlwinds. The two dark clouds touching ground worked together in the strictest harmony in producing such effects as ld be produced by one tornado whirling contrary to the hands of a watch. But, as ady instanced, streaks of wind of unusual power curved in half circles toward the er at certain places. One of those streaks passed in a northeasterly direction ugh the town of Lancaster, while the main whirl was one hundred yards to the h of it. This streak was at first only a few yards broad, but rapidly increased in h as it proceeded. It first unroofed a frail stable, without injuring the house be- it. It then increased in force, throwing down four or five houses, and unroofing any more. The following shows the position of the houses and the directions in h they were blown:



e long arrow denotes the main track; the curved arrow the streak mentioned; short arrows show the direction of the destructive wind which threw down the ous buildings. Between the building *a* and the main storm-path there is a space fty yards comparatively uninjured. The sketch does not pretend to be strictly rate as to distances, but to give the relative positions of the houses.

aving Lancaster, the whirlwind traveled down the declivity toward North Skunk r in a direction somewhat east of northeast. It leveled the fences in its path, in way already described, and never varied from its commencement to its end. The e of widow Dogget, situated about a quarter of a mile south of the river, stands a to the northwest of the storm-center, at the commencement of the level bottom- s. Here two deep ravines, one from the south and one from the east, meet. In ravines the storm developed enormous power, smashing up the timber terribly. roofs of the house and barn were carried south and somewhat west. The trees on orth side of the center were thrown down toward the center, some pointing south- and south, but the majority southeast. On the south side of the center they lay ting northeast, north, and northwest. An oak-tree, 12 feet in circumference at the , was broken across 12 feet from the ground. At the bottom of the narrow, steep ne, running east and west, trees were lying just as they fell, some pointing east some west.

rs. Wimar testified: That difficulty was experienced in preventing the wind from ting in the door and windows; that it felt cool as the storm was passing; that a hail as large as hens' eggs fell before the hurricane, and a great deal of rain ward; and that the point of the lightning-rod upon the barn was partially ed by a flash of lightning.

e-quarter mile beyond Mrs. Dogget's house the tornado reached North Skunk r, which it then followed for over two miles in a southeasterly direction until it e to the southerly bend of the river, opposite Kohlhaus's saw-mill, when it sud- y turned to the northeast. The bottom-lands on both sides of the river are here red with tall timber, and through this timber the storm tore its way with resist- fury. All trees within a breadth of about one hundred yards were either over- ed or broken off and barked. The barking was evidently the result of three gs:

Many of the trees barked had been bent, so as to loosen the fibers of the wood. bending would infallibly loosen and perhaps break the bark.

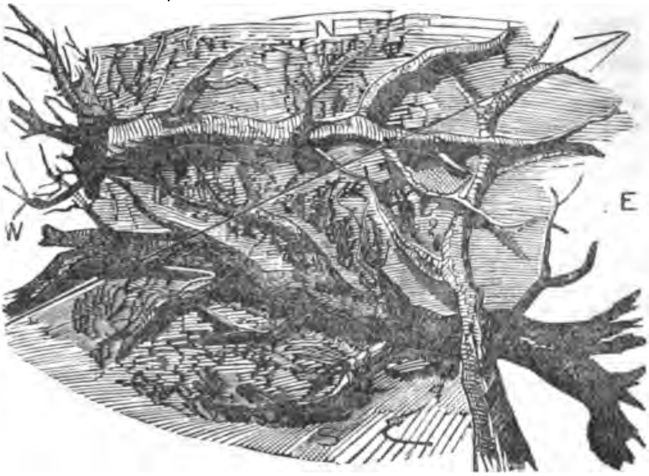
The air was thick with missiles, which not only broke the bark, but sometimes penetrated the wood. I have seen a corn-stump less than two inches in length sticki in the bark of a large tree which it had penetrated.

3. The peeling-off of such loosened and broken bark would be a light task for sucl tremendous blast. There was not the slightest evidence of electric action or of vap explosion.

Broken trees had the bark torn off, both up and down, from the point of breaka Trees half-broken and bent to the ground were similarly stripped.

At the place of rupture, the trees generally presented that broom appearance, which the supporters of the theory that electricity is the principal agent in t production of tornadoes have seen conclusive evidence of its truth. It will aft ward be shown, when this phenomena becomes more common than could be expect on the soft soil bordering North Skunk River, where trees were more easily uproot than broken, that this broom appearance is due to the excessive bending and straini of the fibers of the wood, and their rupture, in succession, from the exterior inward

The river, being impassable, rendered the examination of the general positi of the fallen trees more difficult. Everything, however, corroborated the e dence already so abundantly adduced, that the tornado was a whirlwind powerful centripetal tendency, circling contrary to the hands of a watch. The f lowing arrangement of fallen trees was selected as being typical. It was found on t north side of the river, near the center of the tornado.



No. 1 is a tree 3 feet in diameter, but much decayed, blown down from the ea southeast. No. 2 is a tree one-half foot in diameter, blown down from south-southea No. 3 is a tree 2 feet in diameter, blown down from the west. No. 3 lies above No. and No. 2 above No. 1. It occurred just where the storm left the river.

That the force of the storm was enormously increased immediately after reach North Skunk River is proved by the greatly extended width of its path. At A. D get's and B. C. Moore's houses, three-quarters of a mile distant from the storm-cent the out-buildings were damaged and the fences thrown down by a southerly wi Mr. Dogget testified that the tornado appeared somewhat like two funnels with smaller ends together, and that when apparently three and a half miles distant, column subtended an angle of about 25°. The houses of these gentlemen are situa on the summit of the bluffs facing the river, which are perhaps 200 feet high.

The house of Joseph Ash, situated on the face of the bluff, and distant from the ri about half a mile, was blown to the south-southwest. Large trees were at this tance blown down in the ravines running to the river. Mr. Ash testified that wind lasted a few minutes, and that it changed to the northwest after the passage the tornado. A little hail fell before the storm, and a small shower of rain after it. S lightning and heard thunder. It grew cool as the storm passed.

Matthias Gengler's house stands on the summit of the bluff, one mile distant fr the river. Due north of this farm was the saw-mill of Joseph Kohlhaus, where tornado turned to the northeast. Mr. Gengler testified that it presented the appe ance of a column rising from the river to the clouds. Its width at the top was tw as great as at the bottom. It was perfectly round and perpendicular. It moved ste ily along, without jumping up and down and from side to side. The angle of elevat

55° when opposite. The wind blew very strongly. Mrs. Gengler said that the om was the blackest, and that the top looked like clear, solid water. She could spin around and upward like a screw, contrary to the hands of a watch.

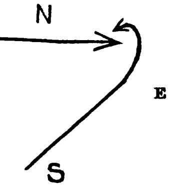
tthias Hotel's house is a quarter of a mile east of Gengler's, and at the same dis- e from the river. He testified that it appeared to him like a big tower. Some- s it was wider at the top than the bottom, and sometimes at the bottom than the All afternoon previous to the storm it was very dark in the north. As the tor- approached, the wind grew very high from the south, endangering the build- The height of the summit, when nearest, was 55° or 60°. Saw something prairie-chickens whirling in the air; believe now they were sheep. Do not know her any one has lost sheep.

e Black Hawk mills are situated about one and a half miles farther down the than the point where the tornado left it.

i Walker, proprietor, testified that he heard a roaring for perhaps an hour previ- o the arrival of the tornado. Saw it approaching apparently in a straight line itness. It seemed to move slowly, and was perfectly steady, without any oscillat- motion. Could not in the column itself recognize a whirling motion, but the clouds around the summit of it were whirling. The top of the column had an tion of about 30° when nearest. Saw it suddenly bend to the northeast at haus's. Before the tornado approached the northern sky was black with clouds, h extended eastward. The south was generally clear. A hail stone or two fell e tornado came up, and a light shower of rain afterward. Saw no lightning. d thunder previous to the tornado. While the whirlwind was on the river, the r ceased to flow over the dam, although the river at the time was high.

Stout was at Black Hawk mills. He testified: Saw it distinctly in funnel shape. d see it as far as Lancaster from the summit of the mill-buildings. The top of it ared, when one and a half mile distant, to be 15° in height. Saw two funnels together and form one. The smaller one came from the south and joined the oth- The top of the funnel looked like a solid body of water. Saw flashes of lightning top of funnel, apparently northward. The small end of the funnel was up, but was not much difference in size. The clouds above the funnel appeared to be ling and approaching the center. The funnel which came from the south was of hter color than the other. The wind changed as the tornado advanced, and blew gly toward it. The clouds above the narrow top of the funnel appeared to whirl nnel form, with the wide end upward.

e following represents the apparent direction of motion of the two funnels as they oached each other:



Henry Lundy was at Black Hawk mills. He testified that he saw it whirling contrary to the hands of a watch. Thought he could see the top of it, and that it did not reach the clouds.

Matthias Bevens was one mile southwest of the storm. He testified that the column resembled very black coal-smoke, and went right from the ground to the clouds. It whirled with great rapidity contrary to the hands of a watch, rising at the same time like the spirals of a revolving screw. The top of it was about three times the size of the base. Little dark clouds appeared to fly out and around the dark column. When one distant, it subtended an angle of 30°. Saw no lightning; heard no thunder.

e house and steam saw-mill of Joseph Kohlhaus stood directly in the path of the or, at the distance of a quarter of a mile from the river, on the north side.

. Kohlhaus testified as follows: The tornado appeared to stand still for several ents at the bend of the river, and then all at once bounded forward to the house. le standing still, it seemed to shoot or grasp out first on the one side and then on ther, as if discharges of artillery were taking place on these sides. The roaring terrific. It resembled the sounds of machinery magnified a million times. It was mbined woo-oo-oo and whirr-r-r-r. Watched the column as it approached. It was el-shaped, but changed its appearance. It twisted around and up like a screw. d not recognize bodies in the column; it was too black, and when the funnel e near it grew as dark as midnight. All the clouds were very low. They did not evolve. Saw lightning before the storm.

e building stood upon the summit of a rising ground, about thirty feet high. Be- n it and the river is a half pool, half marsh. It was completely emptied of wa- The breadth of the path of wholesale destruction was, upon the summit of the two hundred and seventy yards. The house stood one hundred yards from the rn and one hundred and seventy yards from the western extremity of this path. timbers and contents of this house were carried in a half-circle first to the north- , then to the west, then southwest, then south, and finally to the northeast, the ier articles being generally sifted out first, thus marking the way the ruins went. n the eastern edge of the path was an orchard, and on the western a wood. The s in the orchard were blown down from the southeast and south; the trees in the wood from the north and northwest. Portions of the clothing from the house shingles from the roof lay among the trees in the wood, or stuck among the branc There were no signs of explosion, the doors and windows having been blown in. inmates were all more or less injured. The width over which fences were blown d was here about three-quarters of a mile. An iron plow, weighing two hundred pou was carried forty yards. The sheet-iron chimney was carried two miles to the no east. An iron sausage-machine, six inches by eight, and weighing fifteen pounds, blown away. Part of it was found twelve hundred yards distant. The wheel wagons were smashed, and the tires twisted.

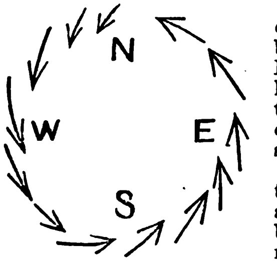
[The cut on page 1055 is a representation of the effects of the whirlwind at place.]

After leaving the mill, the storm ascended a hill some 200 feet in height, leveling fences, but with evidently diminished violence.

Peter Randolph, about two hundred yards distant from its northern edge, distin saw it whirling contrary to the hands of a watch. Lightning struck a tree on farm about half an hour before the tornado. This tree I saw myself. There wa light shower of rain after the tornado.

John Wehr said it looked like the cylinder of a threshing-machine, and spun aro like a screw.

Passing over the top of the hill in a northeast direction, it struck Rock Creek, w here runs south, with a little easting. Immediately altering its course, it went strai up the creek for about half a mile, developing prodigious power. The large trees wh lined the banks were torn and peeled and overthrown in promiscuous ruin. At a p where there is a small circular island, and a considerable amount of stagnant w around, the storm would appear to have stood still for a moment. The following sh the position of the fallen trees at this point:



There were no trees on the island itself. There wa evidence whatsoever that the barking of the trees been effected by electrical action or sudden evaporat Everything tended to prove that the bark had b loosened and broken by the excessive bending of trees and by flying missiles. One of the steers killed at creek had an oak rail driven completely through shoulders.

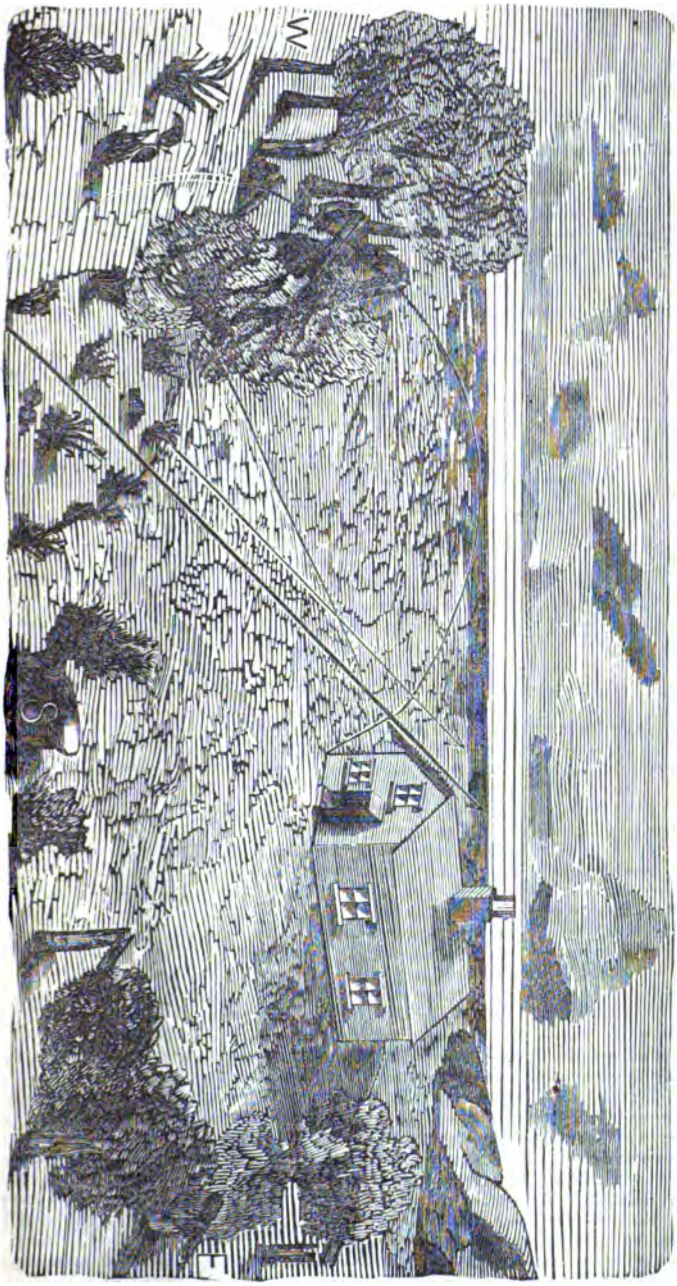
On reaching a slough which enters Rock Creek f the northeast the tornado followed it. Beside this slo and close to the creek was a small grove of young t belonging to John Stein. This grove was completely ried away, nothing remaining, except a few barkless tw At no point in its course did the storm develop greater energy than at this grove. G erally young saplings, over which the center of the storm passed, were, although strip of bark and twigs, left standing. Here the ground was whipped as bare as though grove had been lashed with a whirlwind of fire. The tornado then passed betw the houses of William Goeldern and John Stein, sweeping the fields, within the nar path of its greatest violence, clean of grass, wheat, and corn-stumps, while the gro was torn and furrowed by flying rails and trees. The rails and broken timber been gathered from the fields; but John Stein assured me that they lay thickest al the center of the storm. Along the sides of the path of greatest violence, many r were driven deeply into the soil, end foremost.

While the main whirlwind thus pursued the path described, there were smaller shoots or arms which played havoc on its southeast side. Such an arm cut a sw about twelve yards wide through Schild's orchard from southwest to northeast, swath widening as it went. It was not possible to trace it until it reached the m storm, for reasons similar to those already given. It seems probable, however, tha joined it at the little island above mentioned, where the storm appears to have m mentarily stood still. The relative positions favor such a surmise. This streak strong southwest wind was a quarter of a mile distant from the center of the m tornado.

A similar streak leveled the fences close to the house of John Stein for a width fifty yards, while nearer the main tornado the fences remained standing. This stre I surmise, joined the main storm at the grove above mentioned. A similar arm t down the new barn of F. A. Latz, about a quarter of a mile farther on, without in ing weaker buildings close beside it. The path of this streak is said to have been v distinct among the fences until it joined the whirlwind near the house of Peter Ma The fences were, however, already restored.

George Starr, three-quarters of a mile southeast of the tornado, witness: About 1 p it commenced to thunder and lightning in the northwest. The storm advanced al the northern sky, and it lightened terribly there previously to the arrival of the nado. A big cloud extended from southwest to northeast. It cleared up immediat the tornado, both here and in the north. Lost eighteen head of cattle at Rock k. One was perforated by a rail.

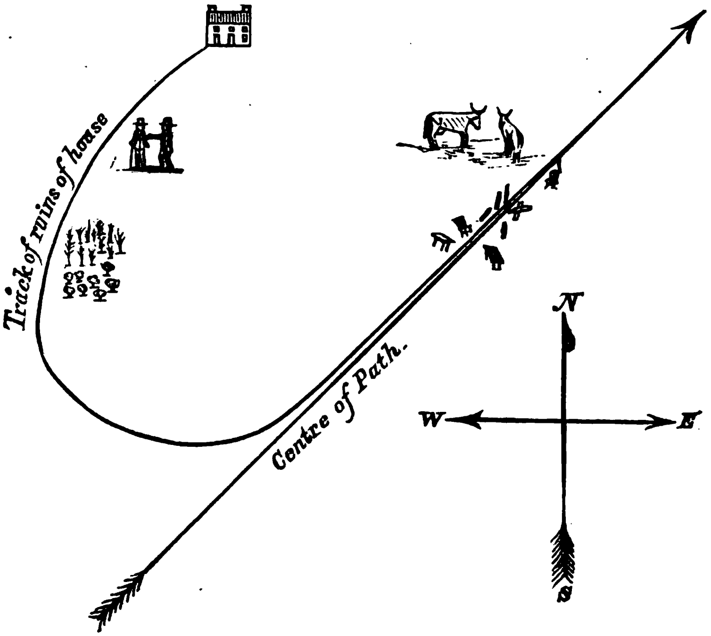
hn Marsh's house stood a little to the northwest of the center of the storm. His



Effects of the whirlwind at the house of Joseph Kohlhaus.

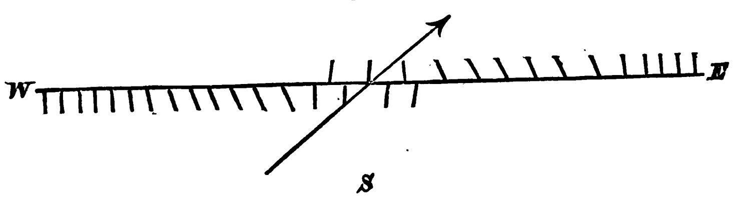
imony: Watched it as it came directly toward me. It deflected a little from side ide, with a zigzag motion. It turned and twisted like a screw in revolution. All family were in the house, the house having no cellar. It became as dark as midnight. The windows and doors were blown in, in spite of our resistance, and we knew no more until we found ourselves lying in the slough severely wounded.

The destruction at this house was most complete. The house was carried forwar from its foundations bodily; but as it was going down a declivity toward a slough, i failed to strike the ground until it went to pieces. The heaviest timbers and the inhabitants were deposited in a slough, about one hundred yards south-southwest o where the house stood. One child was killed instantly, and Mrs. Marsh has since died The fragments of the house were carried, as was easy to trace, first to the southwest then in a curve to the south, the southeast, the east, and then along the center of th storm to the northeast, the heavier articles sifting out as they went. I found ears o corn two hundred yards to the southwest and south of the house, and a fragment o heavy wood four hundred yards to south-southwest. Two cows and thirteen hogs were in a yard a little nearer the center of the storm than the house. They were carrie one hundred yards to the southeast, and killed or fatally injured. A stone from th foundations of the house, weighing about one hundred pounds, was said to have bee carried about one hundred yards south; but I could not find it. Sewing-machine, cultivators, wagons, &c., were wholly carried away, and left not a wreck behind. Th timber was generally reduced to the dimensions of fine fire-wood, and thickly strew along the path of the storm to the northeast. The width over which fences wer thrown down was here about a half a mile.



Sketch of the path of the ruins of Marsh's house.

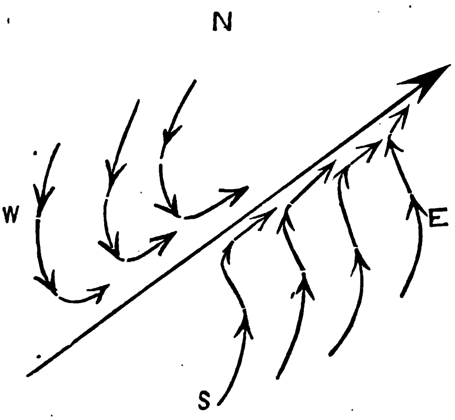
A quarter of a mile to the north of Marsh's house stood the house, barn, &c., of M Fuh. They were blown to the southwest, but without being carried away. The nex house struck was that of M. E. Harris, the storm-center passing about twenty yards t the northwest of it. The fiercest of the storm was here only one hundred yards wide but fences were blown down for over five hundred yards. The doors and windows o the house were driven in by the wind and the flying missiles, and immediately th house went to pieces. The house and out-houses were carried away, broken to smal pieces, and deposited for a mile or two along the path of the storm. The trees aroun the house, which were not plucked out by the roots, had their tops and branche broken off and their bark stripped from them. The stripping of the bark was evidently due to the causes already assigned. The stripping was most complete on th southwest side of the trees. A fence four hundred yards in length, and running eas and west, was deprived of its boards, the posts still remaining in the ground. Wher the storm-center crossed it, the direction toward which the posts were leaning wa eterminate. On the west of the center the posts were leaning south, with a little ting, and on the east of the storm-center they were leaning north, with a little ting.



he above is something like the disposition of the posts along the line of the fence. length of fence thrown down east of the center was about one-quarter greater u that thrown down on the west of it.

he corn-stalks in a contiguous corn- l were thus disposed: Those on the theast side of the center curved und from pointing nearly due north nearly due west. Those on the thwest side curved around from nting nearly due south to nearly east. Along the center all pointed h the storm. This shows the direc- n of the last wind, strong enough lter the position of the stalks.

latthias Linen, a quarter of a mile thwest of the edge of the storm, tified that it presented the appear- e of a great column, reaching from ground to the clouds, and whirling trary to the sun. It seemed to re- in almost still at some places, and n would dart forward. Hail four hes in diameter fell as the storm sed. They were very irregular in m.



Corn-field.

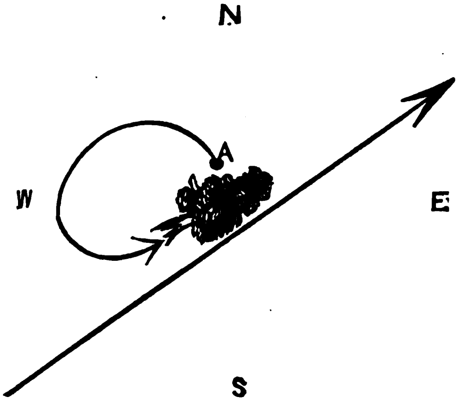
aul Ritter, Clear Creek Township, section 9, testified that the tornado looked like ig tree, only it was five times greater at the top than the bottom. It turned like a eel in a mill. Its direction of evolution was against the hands of a watch. At the tance of a mile, its top, when it entered the cloud, made an angle of about 60°. Hail large as pigeon's eggs fell before the storm, and it rained very hard after it. Saw tning in the west previously.

Ir. Ritter's house stands about seventy yards to the northwest of the storm-center. path is here about two hundred yards wide. The arrangement of stalks in a corn- d was the same as that already given. The roof of the house was carried south. A mp-cutter, which was standing by the house, was carried—the iron portion fifty ds south, the wooden portion half a mile to east-southeast. Wheels which came hin the reach of the storm were dashed to pieces, and the tires twisted into all sorts shapes. An oak tree, 3 inches in diameter, and which stood exactly in the storm- ter, was split by a fragment of a board one inch thick. The board was originally bably 6 inches broad and 8 feet long. Of the two small fragments remaining in the e, the longer was only 17 inches in length. The board was driven into the tree m the southwest. The path of extreme violence, about fifty yards wide, was ongly marked in the grove of young oaks. They looked as if they had first been hed against a pile of stones and then trailed in the mud. Portions of bark were ıck off and the smaller branches shattered and peeled. This grove stands upon the ge of a steep declivity about 100 feet in height, at the bottom of which flows Clear eek. Here is a circular hollow nearly enclosed by high bluffs, and within it the rm raged with demoniac fury, smashing trees of 4 feet in diameter to pieces.

he following instance was found on the opposite declivity, up which the storm ed with undiminished power:

he tree stood at A originally. Its root was partly decayed, and it must have fallen th the first strong gust. The path which it traveled was cut out in the grass by root. This path was forty-seven yards in length and was nearly circular. It first ved to the northwest and then round in a curve, until it lay pointing to the rtheast, with its top almost touching the spot where its root had formerly been. e tree stood to the northwest of the storm-center, and was two feet in diameter.

Crossing the summit of the rising ground, which was thoroughly plowed up, the storm traversed a wooded ravine, where for a width of fifty yards it deprived the young trees of their twigs and of much of their bark, besides throwing down the full-grown.



Nick. Engledinger, section 10, Clear Creek Township. His house stood about one hundred yards from the southeast edge of the tornado. From any indications which the remains presented, the timbers must have first been carried north. Two persons were killed—one of them being torn to pieces. A hog weighing four hundred pounds was carried one mile and a quarter in the line of the storm.

The house of Jacob Koerth stood fifty yards within the northwest edge of the storm. The timbers went south. The people tried to prevent the wind from blowing in the doors and windows, and could not. The wind entered and blew the house asunder leaving the floor in its proper position. Hogs weighing three hundred pounds were carried to the northeast across a ravine and deposited three hundred yards away. A horse, a cow, and a bull were similarly carried two hundred yards. Sheep were carried four hundred yards. In addition to the accidents inseparable from such an aerial voyage, the bodies of the animals were driven full of pieces of wood. On this account, the bodies of all animals which perished in the storm were burned.

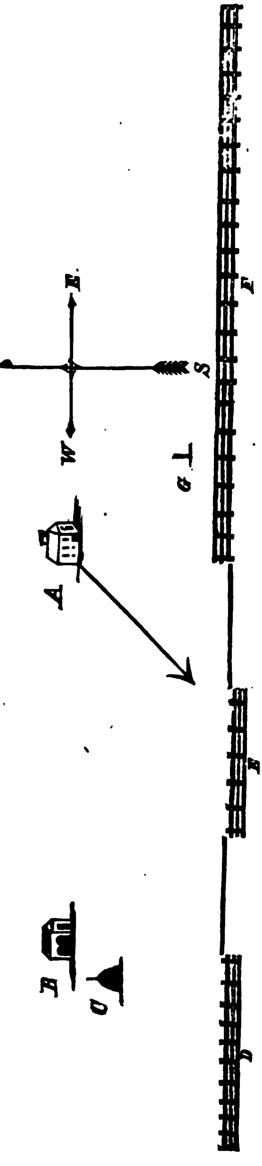
A horse-power machine, partly wood, but chiefly iron, and weighing two thousand four hundred pounds, was pushed or carried six yards. It was resting on the ground, and was separate from all other objects. There were no marks upon it arising from violent collision with other bodies. It exposed a surface of about two square feet to the wind. It lay close to the ground. The master of this house was absent, and information, owing to the invalid condition of the inmates, was hard to obtain.

The storm now turned somewhat more to the northward, traversed several fields, demolishing the fences, until it struck the house of R. F. Campbell, Lafayette Township, on the borders of Clear Creek Township. The exact position of this and the two immediately preceding houses was difficult to determine upon the map, because of its very defective condition, and because their owners could not tell me what section they were in.

Mr. Campbell testified: That previous to the tornado he observed several currents above one another among the clouds. The wind was from the southeast. The lowest current of clouds from the southwest, the next from the northwest, and the highest from the northeast. It commenced hailing about fifteen minutes before the storm. The hail was, in some instances, three inches in diameter, and fell in considerable antity. It was calm when the hail fell. The hail was very cold. When two were t together they immediately froze. The north was full of black clouds previous to tornado, in which the lightning flashed incessantly. Heard a dull, thundering se in the northwest previous to the tornado as of falling hail. There appeared to rain or hail falling on both sides of the vortex as it approached.

The preceding cut shows the appearance it presented at the distance of seventy yards. ere appears to be two incipient funnels, one on each side:

post 8 feet in length and 4 inches in diameter, and driven into the soil 3½ feet, was led out by the wind. It stood without attachment.



The width of the storm here is one hundred and sixty yards. The house stood within twenty yards of the northwest edge. It was tilted up on its corner bodily, inmates, floor and all, and deposited on its roof seventeen yards to the southwest of its former position, and then went to pieces. There was no indication of explosion. The accompanying is a plan of the effects of the storm at this house:

A is the house, which was carried in the direction of the arrow. B is a stable and C a haystack, both untouched. These were twenty yards from the house. D, E, and F are portions of a fence which were thrown down. D and E were thrown south, leaving the intervening portions untouched. F was thrown north. G is the post already mentioned.

This was the last destruction in Keokuk County. The tornado ceased to touch the earth on Mr. Campbell's farm. It drew itself up into the cloud from which it had come down. Hitherto it had traversed a country full of deep and well-wooded ravines. Here it entered upon a flat, bare country, in fact a watershed. It continues much the same for the seven miles which the tornado here skipped.

J. Yeats Brockway's farm, Lafayette Township, witness: Saw whirling in the clouds, after the tornado lifted, contrary to the hands of a watch. Watched it for ten minutes at least afterward, and it continued to whirl. The whirling portion of the clouds did not appear to be wide.

Mrs. Fobes, who resides about one mile northwest of the line of the tornado, witness: Saw the funnel. It seemed to stand still. Then it took a bend to the east. Then it grew so dark she could not see it. It grew lighter, and she could see it distinctly to the northeast of Campbell's house. It vanished suddenly, and she saw it whirling at a furious rate in the clouds contrary to the hands of a watch. Did not notice any more roaring after the tornado lifted.

H. Case: Resides about one and a half miles from the line of tornado had it continued. It rumbled a long time before the tornado. The sky was clear in the southeast. Saw no lightning. Hail of large size fell before the tornado approached. The center of the hail was shaped like a bird's egg, and pieces of transparent ice—like rock-candy—were stuck all around it. There was scarcely any rain afterward. The wind was blowing from the southwest at first and changed to the east as the storm came near.

Katie McLoud, school-teacher, witness: The school is a little to the northwest of the line of the tornado had it continued. It must have been about 3 p. m. when the tornado was here. Distinctly saw the funnel whirling contrary to the hands of a watch. Watched it until I could not see it for heavy rain. It had hailed about half an hour previously. The wind, while it rained, came from the northeast, blowing nearly straight toward the storm.

. H. Simpkins, Keota, witness: Thinks the sound continued after the tornado d, but not so loud.

oseph Charlton, Keota, witness: Saw the funnel distinctly reaching from the earth he clouds. The clouds were very low. Saw the tornado disappear. It had only to rise a little way when nothing, except the low cloud, was visible. The dense low clouds continued the same and the funnel only disappeared. The southern sky was clear.

J. R. Turner, Keota, witness: There was a very heavy rain, mixed with enormous hail. One hailstone was 7¾ inches in circumference, after lying some time.

T. D. Melville, Keota, witness: It commenced to hail about twenty minutes before the tornado disappeared. Further to the north it commenced sooner. The low cloud allowed only a small portion of the tornado to be seen. At three miles distance the funnel only subtended an angle of 15°. The rain came about twenty minutes after the hail. Weighed a hailstone of four and a half ounces, measuring 3 inches in diameter. It lightened a little.

T. N. Smock, Keota, witness: It hailed before the tornado disappeared. Saw some lightning in the direction of the tornado. The direction of the wind, while the hail was falling, was from the northeast; but it was light. There was not much wind with the rain afterward.

G. W. Erwin, Keota, witness: Remembers that when the tornado lifted the sound ceased.

W. R. Charlton, Keota, witness: Did not not notice the noise after the tornado lifted. Heard it long and loudly before.

Robert Renfrew, Keota, witness: The town was all scattered with oak-leaves as the tornado passed. The wind previously was southwest. It changed to east as the tornado approached, and during the east wind the oak-leaves fell. After the oak-leaves fell, the sound suddenly diminished. Saw an elm fence-board 8 feet by 6 inches by 1 inch, and weighing from fifteen to twenty pounds, taken out of the ground. It was driven about 4 feet into the soil at an angle of about 45°.

Dr. D. McFarlane, Keota, witness: Was five miles on the southeast side of the line of the tornado had it continued. Heard in the west a roaring for perhaps twenty minutes previous to and after seeing a smoky appearance.

J. F. Wilson, postmaster, Keota, witness: About 3 p. m. was making up the mail. The storm was then coming up.

The storm having ceased to act as a tornado upon the surface of the earth, I proceeded to Westchester, Washington County, where it was reported to have struck. There can be no doubt, however, that a strong, though not a destructive wind, was felt over the intervening space, and that it obeyed the usual law of cyclones by blowing in spirals toward the point over which clouds continued to whirl like a great wheel.

G. W. James, station agent, Westchester, witness: Saw the main cloud whirling rapidly contrary to the hands of a watch. Saw an arm come down and strike the plowed field. Could hear roaring overhead. The roaring was louder before the storm arrived then when it was here. A few large hail fell and a little rain.

J. T. Robertson, Westchester, witness: The arm which came down carried up considerable quantities of mud and cornstalks. A few fences were blown down and a small wooden building damaged. There were only a few gusts. The revolving cloud was only a little way above the tops of the houses.

Mrs. Thomas Gavin, Westchester, witness: The wind blew down the blacksmith's shop in the rear of our house. The house itself was shaking. Hail fell as large as hens' eggs. It grew quite dark when the house was struck. Everything was blown toward the northeast.

S. W. Wilson Cedar Township, three-quarters of a mile northwest of Calvin Craven's farm: Heard roaring for more than an hour previous to the advent of the tornado. Watched the cloud as it came along. Saw the tree-tops whirled by it. It appeared to be only 10 feet above the tree-tops. Hail as large as pigeons' eggs fell previous to the tornado, and a great quantity of rain after it.

T. B. Coffman, Cedar Township, section 33: (The tornado passed about a quarter of a mile southeast from witness.) Heard roaring like a heavy train of cars. Saw a whirling cloud in shape of a funnel. Hail not so large as hens' eggs fell immediately after the tornado passed. The top of the funnel was about 40° high when it was nearest.

Rev. J. P. Coffman, Cedar Township, section 33, witness: The tornado arrived about 3 p. m. Heard the noise for more than one hour previously. When it was hailing heard the sound just as distinct as before. Did not hear roaring after the storm passed. The wind before the storm was nearly due south. After the storm, and with the rain, the wind came from the north and northwest. Have learned that two or three miles to the north the rain was tremendous. There was lightning in the northwest previous to the tornado. As it approached, saw light, fog-like clouds, rushing, with the greatest rapidity, from the north. Its form was not so distinct before as after it passed, when it presented a decided funnel appearance. It was nearly clear in the south. When the funnel was distant about one mile it appeared to subtend an angle of about 25°. The funnel might have entered the dark, overhanging clouds, but it appeared to be wholly in view. There seemed at one time as if iere had been a violent explosion in the revolving mass, as it was somewhat broken o. Hail larger than pigeons' eggs fell with the south wind before the storm.

The tornado passed over Mr. Coffman's house, blowing down fences about a quarter 'a mile in width, and damaging buildings. It was all done by a southwest wind.

Calvin Craven, Cedar Township, section 33, witness: Previous to the storm the wind ew briskly toward it from the east. The cloud, as it approached, extended from uthwest to northeast, covering the whole northern sky. Heard the roaring of the rnado, like several trains in motion, about thirty minutes previous. Saw white, ggy clouds darting through one another with frightful velocity as it came near. bove these whirling clouds was a dense black cloud. A few hail fell before the tor- ado, and a little rain after. Have heard that a most tremendous rain fell about one ile and a half to the north. It was extremely warm before the storm.

J. C. Brown, Jackson Township, witness: Was on the northeast of Calvin Craven's. oticed the tornado first as it was tearing his fences, &c. At this time there was one hirl which reached the earth. It was not a jet black, but the color of coal-smoke. here was a big cloud directly over, but, although in commotion, it did not whirl. Vent into a ditch to escape the hurricane. I then saw other two funnels, one on the uth side and the other on the north side of the main one. All three moved forward ward me; but the outside ones also moved toward the central one. In a short time ey joined the central one, which then appeared to stand still, and whirl around and ound for a moment. The side ones did not whirl. They were bent forward at their wer ends where they touched the ground. The middle one did not whirl. It moved ue east, and then northeast, and then due east again. The tops of all these were sev- ral times wider than the lower portions. Saw no lightning. A little hail fell before ud a little rain after. The wind blew from the southeast before and from the north- orthwest after the tornado.

William Scranton, Cedar Township, section 27: Scranton's house stands on the north- ast edge of the storm. The roof of the barn was carried 150 feet due east. A tree in e orchard was blown toward east-northeast. The center of the storm passed over the enter of the farm. The fences on both sides of it were thrown down toward it. The vidth of the path here is half a mile. The storm appeared to Mr. Scranton like two louds coming together, one from the southwest and the other from the northwest.

R. H. Craven, Cedar Township, section 27, witness: A little hail fell before the tor- ado, and a little rain after it. The wind was northwest when the rain was falling. t cleared up about half an hour after the rain. In two places on the road east of cranton's house ten to fifteen rods of fence were blown down, leaving the interven- ng fence standing. The fences on this farm were blown as usual.

W. H. Burham, Cedar Township, witness: Was on the edge of Scranton's farm. leard the storm a long time before it came. Saw it about twenty minutes. The wind efore the storm came from the south quite strong. Then it grew calm. Then there ame a very hard wind right from the north. An intensely black cloud, apparently bout 4 feet wide at the bottom, and swelling out like a large haystack, passed three undred yards to the south. The top of it, when it entered the clouds, appeared to be bout 45° high. It moved up and down, now striking the ground, and now passing ver it. When it struck the ground it tore up everything. Saw it whirling contrary o the sun. Hail as large as walnuts fell before the storm, and a hard rain-shower fter it, and then it cleared up immediately. Heard there was a heavy rain two miles o the north, washing away culverts and bridges. It felt cool as the storm passed, but rew very warm afterward. Saw rails flying out from the summit. An average rail eighs about forty pounds.

Frank Brown, Cedar Township, section 26, witness: Distinctly saw the funnel revolv- ng contrary to the hands of a watch. Its height at one and a half miles distance was bout 15°. Its top was five times broader than the lower end. Saw it strike the round after it passed. Dark clouds appeared to strike the ground and rebound like pray. Saw only one funnel. The cloud extended from southwest to northeast, cover- ng the whole northern sky. Observed sheet-lightning in the tornado several times. t grew slightly cold as the storm passed. When the tornado had passed about one nd a half miles it appeared to stand still, and a strong gale, with rain, blew directly rom it, so that I thought the storm was coming back. Almost everything on the farm which was blown down was blown toward the northeast. The breadth of path is a quarter of a mile.

Mr. Brown's house stands on the southeast edge of the storm.

J. S. Philips, Cedar Township, section 26, witness: Was holding the window looking west to prevent it from being blown in, and noticed that it was 3.15 p. m. Hail fell, between a tea-cup and a hen's egg in size.

Mr. Philips's house is one-half of a mile southeast of the storm-center.

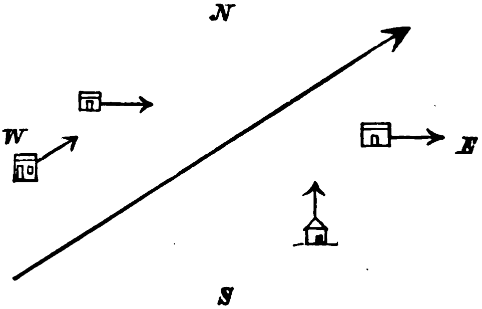
W. W. Cook, Cedar Township, section 25, witness: (House four hundred yards south- east of the edge of the storm-path.) About twenty minutes before the storm came up the wind blew briskly from the south. When the tornado was passing it blew a strong gale from the southwest. It rained after the tornado, and during the rain the wi blew from the west.

The son of this witness was two miles to the southeast during the storm. Hail large as pigeons' eggs fell there and a little rain.

J. W. Plumber, Cedar Township, section 26: (House on southeast edge of the stor When the tornado was several miles off saw a mass of clouds come from the northw and another from the southwest, and rush together. The angle between the southe limit of the southwest clouds and the northern limit of the northwest clouds, wh several miles distant, was about 45°. The angle of elevation was about 35°. Besid these underclouds, there were overhanging masses of cloud. Saw the funnel-for distinctly after the storm passed. It appeared to be twice as broad at the top as t bottom. It looked like a screw turning contrary to the hands of a watch. When thr quarters of a mile distant, it subtended an angle of 25°. Hail fell about half an ho before the storm, with a gentle east wind. When the storm had approached with half a mile, the wind came so strongly from the south as to blow a man off his fe It rained a little some few minutes after it passed, with a west wind. About twen minutes after the tornado, a light shower fell, accompanied with a northwest wind about twenty-five miles per hour. Saw lightning in the northwest before the stor

John Maughlin, Cedar Township, section 25: The storm-center passed right over M Maughlin's house He testified that he saw a complete funnel-form about two hu dred yards distant, and that it went up into an overhanging mass of cloud. The fu nel was perfectly opaque, and left a fog behind it so that nothing could be seen for se eral moments after it passed. At the distance of two hundred yards, it appeared be only 15° in height. Saw no lightning.

The outhouses on this farm were badly damaged. The accompanying sketch sho the position of the ruins. The arro point in the direction toward whi the buildings were blown dow The fences were blown toward t storm-center. Those at the cent were carried away.



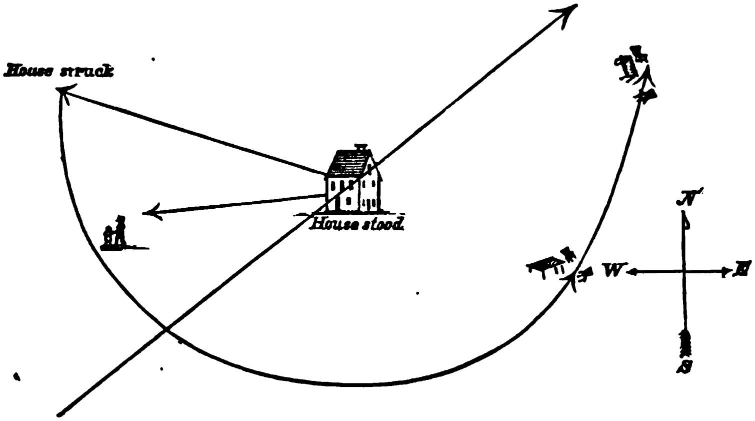
Andrew McKee, Cedar Townshi section 30, witness: The time w 3.10 p. m., precisely. The cloc which had just been cleaned a regulated, was thrown down a stopped at 3.10 p. m. Previous to t tornado, the lightning was warpi incessantly like a snake among t dark-blue clouds in the northwe Chunks of ice about one inch in ameter fell previous to the tornado, accompanied by a light east wind.

I, myself, saw the clock above mentioned. It still pointed to 3.10 p. m. Mr. McKe house stands fifty yards within the northwest limit of the storm-path. The buildin were partly pushed, partly blown down toward the south-southeast. The fences we blown to the southeast. A little empty house about forty yards to the east was blow to the southeast, and some of it was carried clear across the path of the storm.

The hedges along the east and west road are here filled full of *débris*, such as cor stumps, &c. On the southeast of the storm-center the *débris* is driven into the hed from the south, and on the northwest side from the north, but there is a greater exte of hedge with *débris* driven into it from the south than from the north. The positi of the *débris* driven in from the north seems frequently to have been subsequent affected by a west wind. The hedges running north and south have *débris* driven in them on the north of the center from the east, and on the south of the center from t west, but the extent of hedge with *débris* driven into it from the west is greater tha that with *debris* driven into it from the east. The hedges over which the storm pass looked as if they had been whipped violently against a wall, and then trailed in t mud. They were smashed and partially barked, and sometimes carried away. Th description applies to the hedges over which the whirlwind passed at any part of i course.

George Gilchrist, Cedar Township, section 29, (house directly in the center the storm-track,) witness: When the storm struck the house Mrs. Gilchrist, boy, and a child were in front of the west door trying to reach the cave, t boy and child being a step or two in advance. The boy and child were instan ly carried several rods to the west, while Mrs. Gilchrist was thrust back into t house. The house immediately went bodily, going a little to the north of the bo who saw it go past like the railroad, as he expressed it. Its sills struck the groun forty yards from their former position and the house tumbled over and went to piec leaving the inmates comparatively unhurt. As it went to pieces it was struck by west and southwest wind, the furniture being carried far to the east and northeas It grew dark as midnight when the tornado struck.

William Caldwell, Cedar Township, section 29, witness: When the storm struck the house the inmates were in the kitchen, which was a separate building. The wind blew so hard as to threaten to blow in the south door. Four strong men placed themselves against it. The hinges and lock were partly broken. These four men barely held the door with their utmost strength until the house went in a body. The men found themselves, together with the other inmates, a few yards to the north, lying among *débris*. The door was found a quarter of a mile away. It presented to the wind an area of 18 square feet.



Sketch of effect of storm at Gilchrist's house.

Mr. Caldwell's house stood on the southeast edge of the most violent vortex. It was first pushed 6 feet to the northwest, plowing up the ground. The resistance of the ground and of tree-roots here stopped it. It then turned up on its edge, and was lifted over the tops of trees 20 feet high, without injuring them, and carried 100 feet to the northeast, falling entire, and going to pieces as it fell. The house stood with its end to the south. The area of this end was 280 square feet or thereabout. The area of the floor of the house was 480 square feet or thereabout. The weight of the house could not have been less than twenty tons. The trees over which the house was carried are young, and were probably so bent as to allow the house to rise at an angle of 45°.

A heifer, weighing seven hundred pounds, was carried away by the wind, and thrust head foremost into wet soil until her forequarters were buried.

R. M. Stevenson, Jackson Township, section 25, witness: The wind blew from the southeast as the storm came up, changing to north as it passed. The rain came with the north wind. Saw the funnel make two dips and touch the ground. The top of the tornado, when seven hundred yards distant, appeared at an angle of 35°.

The house of this witness stood a quarter of a mile southeast from the center of the storm. The outbuildings were somewhat damaged.

T. P. Harbaugh, Cedar Township, section 13, about one mile from edge of storm, testified: That he saw it go straight forward without stopping. Saw it rising and falling.

A. Booth, Cedar Township, half a mile northwest of storm: Saw it twenty or thirty rods northeast of Frank Brown's. Saw it whirling against the sun. The wind came from the east before the storm and from the northwest after it.

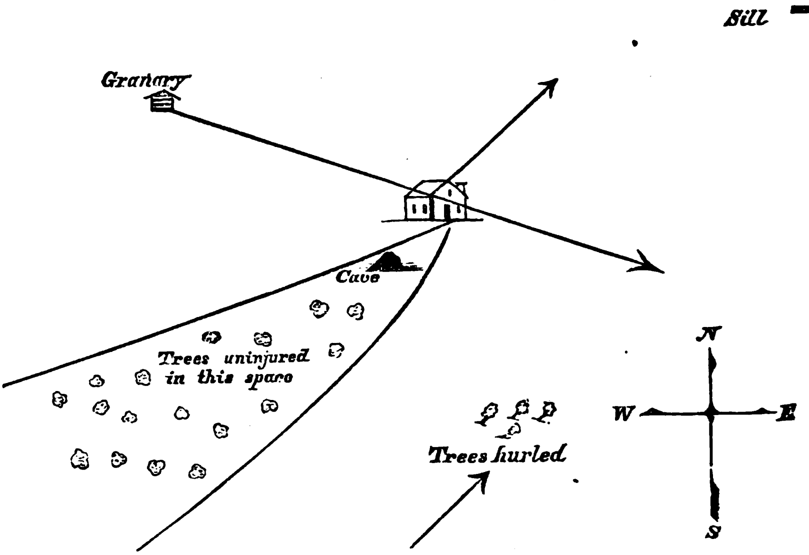
R. Finney was on the northwest side of the center, about one mile distant. He testified: When it was directly opposite, it appeared to reach up to the clouds. It subtended in width an angle of about 35°. In height it appeared to subtend an angle of about 40°. The bottom of the funnel was perfectly black. When it struck a house, could not see the house. Thinks it was lighter a little way up. Could see a roof carried up and fly to pieces. About fifteen minutes before the storm it hailed a little, and it rained for ten or fifteen minutes after. The wind, when the hail was falling, was from the northeast.

John Gordon, Cedar Township, section 25, one-half mile southeast of the center: It hailed about half an hour previous, with a southeast wind. The wind was from the west, as the tornado was opposite. No lightning was seen.

Laurie B. Mauck, teacher at Prairie Flower school, witness: Called in the children at 3 p. m. The tornado was opposite certainly not later than ten minutes afterwards.

Thomas Waters, Jackson Township, section 19, witness: Saw the tornado coming rolling on the ground like a wave. Went to the cave and called upon Mrs. Waters to ollow. She would not. Stood in the mouth of the cave, which was eight yards south

from the house, and facing it, and saw the house blown away. It was struck fr
southwest. First, a portion of the roof was blown off, then the house went bo
like lightning. When the house had gone I came out of the cave and was blow
the east-southeast.



Sketch of Mr. Waters's house.

Mr. Waters's house was 30 by 16 by 11 feet without the roof. It was carried, sill
all, twenty-four yards down a declivity without being turned round or tilted o
When it struck the ground, it at first merely shaved it with the foremost sill, gra
ally going deeper until the resistance became so great as to cause the house to t
over, when it went to pieces. The ground was plowed up about two feet at the de
est point. The house had fallen three feet in traveling twenty-four yards. Its wei
was at least ten tons.

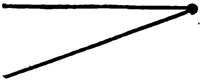
Between the cave, which was only about four feet above the surface, and the ho
but nearer the cave, stood a small tree. Against it a spade was leaning. Mr. Wat
testified that it was not blown down. Two yards east of the tree stood a bucket c
taining a small quantity of lime, and weighing ten pounds. It was not disturbed.
the southwest of the cave the trees were comparatively uninjured over a triangu
space, while on either side they exhibited signs of the greatest violence. An oak
which had evidently been carried with the house until it struck, and then hurled
east, was driven four feet into the soil at an angle of 45°. Its dimensions are 16 feet
8 inches by 8 inches, and its estimated weight three hundred pounds. It was fou
eighteen yards east of where the house struck.

Mrs. Waters was carried with the house until it went to pieces, and received inju
of which she died. The fragments of the house were carried far in the line of t
storm.

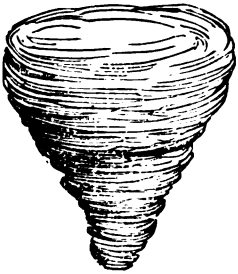
Alexander Gibson had two houses, both situated as nearly as possible in the cen
of the storm. The first house struck was taken away without touching the grou
and went to pieces in the air. The other house, in which were seven persons, w
swung round on its northwest corner, as on a pivot, the south end traveling 36 feet a
cutting up the ground as it went. It then turned over and was demolished. Duri
this journey the floor was broken up and three persons fell into the cellar. The hou
was a large one. It afforded no good basis for calculation on account of the irregular
of its shape. A granary was pushed due east 14 feet. Its dimensions are 16 by 16 b
feet. It is strongly built of generally hard wood, and divided into compartments.
was full of grain. The weight of the building and grain was given at 60,000 poun
The resistance to its forward motion was very great, because it was surrounded wi
wet straw and rubbish, of which it had pushed quite a pile before it. It was rack
by the strain which had been put upon it. Missiles had been driven through thr
hardwood planks, in succession, of an inch thick. They consisted of small pieces
wood, but had been removed. A plank 16 feet long, 2 inches thick and 1 foot wide, w
driven 4 feet into the soil, at an angle of 45°. A corn-sheller, weighing six hundr
and forty pounds, was carried four hundred yards and destroyed. Trees were bark

t without any symptoms of electric action or of explosion. The general position of ees and ruins was entirely corroborative of what has been already proved by an erwhelming mass of evidence, viz, the rotation and direction of rotation of the orm.

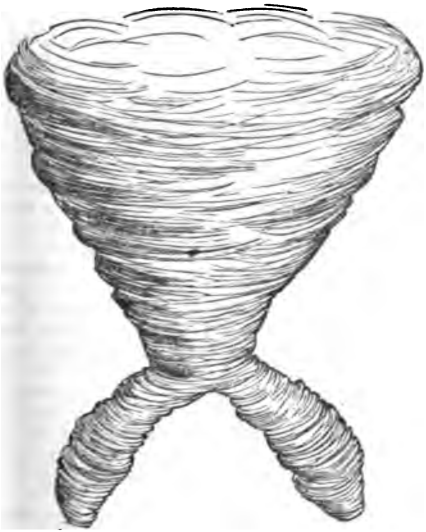
J. K. Marbourg, Jackson Township, section 17, witness: (House eighty yards from orm-center, with an excellent view of Gibson's house.) Watched the storm a long ne before it came. The west was first filled with clouds which extended until they vered all the western and northern heavens reaching a little beyond the zenith. ne tornado first appeared as two clouds, one from the southwest and the other om the west rushing to one point. Together they presented somewhat the appearce of an arrow, thus—



e whirl was seen forming when they met. Above them were dark, heavy clouds hen the tornado came nearer it presented the appearance of one funnel, revolving ntrary to the hands of a watch, and drawing everything up, thus—



When at Gibson's house, where I had the best view of it, and where it was one hundred d twenty rods distant, it presented the appearance of two funnels uniting in one, at e height of 40 or 50 feet. The bases of the two funnels were about 200 feet apart. ey presented somewhat like the following appearance. The two funnels did not pear to revolve around each other. The first came to the east of Gibson's house, took s stable, and then turned back to his house. The two then appeared to unite. Could ot see the two afterward. The tornado disappeared behind a building. It grew ery dark. The funnels were of a dark blue. Everything in them was rising. The



timbers from Gibson's house flew up. Did not see clear sky through the open space between the two funnels, but a bright yellowish hue. The upper funnel extended to the clouds above. Hail, or rather chunks of ice, from a pigeon's to a hen's egg in size, fell before the tornado column came in sight. The wind then blew gently from the east. After the tornado had destroyed the school-house, there came a violent gust of wind from the northwest, which considerably damaged my out-buildings. I had started to go to the school-house, and it carried me several yards before it. Immediately there fell a torrent of rain, with cold wind from the north. Was near where the school had been, but could not see anything. Suddenly saw the teacher and children, as if they had sprung out of the earth. They were coming toward me. They were shivering. They could give no account of what had befallen them. Never saw such miserable-looking beings in my life. I had four children there, and did not recognize them. The mud was pelted into their skins, so that it could not be washed out. It is not all washed out yet. A dead child was found forty yards northwest of the school-house. The storm opposite my house was a mile wide. An oak-post 4 inches in diameter was perforated by an oak-board 4½ feet by 4 inches by 1 inch. (It had been thrown among the other rubbish and was not to be found.)

James Clancey, residing with J. K. Marbourg, testified that he viewed the tornado from the same position as Mr. Marbourg and saw only one funnel. I do not, however, estimate his observing powers so highly as those of his employer.

David Canier, Jackson Township, section 20, witness: Watched the funnel as it approached. It was perfectly dark in it. Could see boards flying out at the top of it. It was very large at the top and small at the bottom. It grew dark as night. Six persons took refuge in the cellar. The house went immediately like the clap of a hand, and the darkness was already gone. Then it turned pretty dark again, and rain fell in a sheet. It did not fall in drops. It was all over in a minute. Things in the cellar were not much disturbed. Bottles stood where they were.

Alexander Gibson, witness: Was at Mr. Canier's house. Hail as large as pigeons' eggs fell about twenty minutes before. Heard the noise about half an hour previous to the storm. Saw clouds coming from the north and south, and rushing together. Saw the funnel when three miles distant. Watched it when thirty or forty rods distant. It was then as black as night, with boards flying around it. A very strong wind was blowing. It grew dark as midnight. Rushed down into the cellar, and was barely down when the house was struck with a sharp, instantaneous rap, and in a moment it was gone. It was dark when I went down into the cellar. It was pretty clear as soon as the house went. It then grew darker again, and a tremendous rain came down. Saw no lightning. Heard no thunder. On my farm a beam was driven right though a hog.

Mr. Canier's house was 24 by 28, by 14 feet to the eaves. It was pushed 18 feet due north without touching the ground. Its edge then came in contact with the soil and with tree-roots, having fallen two feet from its original position, and the house toppled over, and was blown to fragments. The ruins were carried first to the northwest and then around to the northeast. Heavy oak-sills were carried hundreds of yards and broken. The strongest iron-bound machinery was knocked to pieces, and carried away. The sickle-bar of a Buckeye machine was carried thirty rods. A beam 14 feet by 6 by 6½ inches was driven 3 feet into the soil in a slanting position. The beam weighed about fifty pounds.

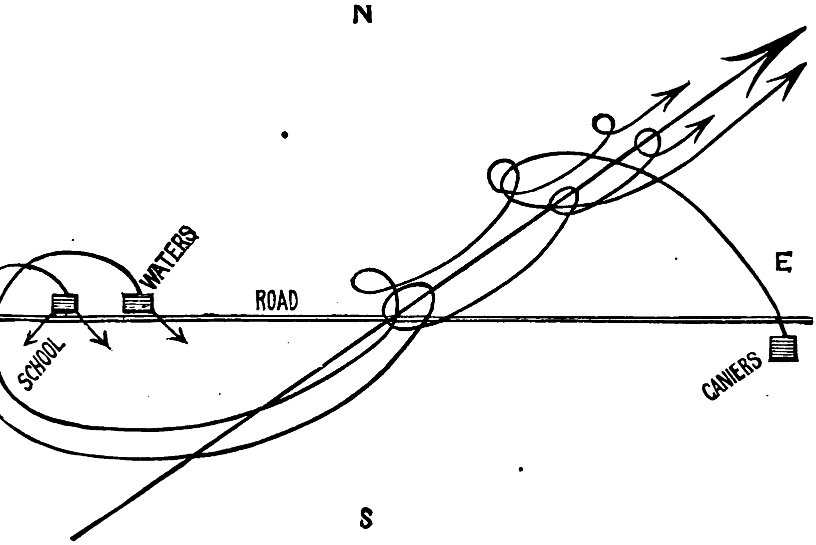
A half mile to the west of Mr. Canier's house stood the school-house already mentioned and a house occupied by Henry Waters. Between these buildings and Canier's house, and about one hundred yards to the northwest of the latter, passed the storm-center. The house occupied by Mr. Waters and the school-house were first blown to the northwest, and then in a circle by the south around to the northeast. A hedge ran along the road which connects the houses. It presented the appearances already described.

The house occupied by Mr. Waters was first blown to the northwest, the sills remaining. The sills were afterward blown to the southeast. The sills of the school-house had likewise, after being deserted by the house, been pushed to the southwest, and finally the position of the *débris* among the ruins showed there had followed a violent wind from the northwest; thus a tree lay across the foundation of the school from the northwest.

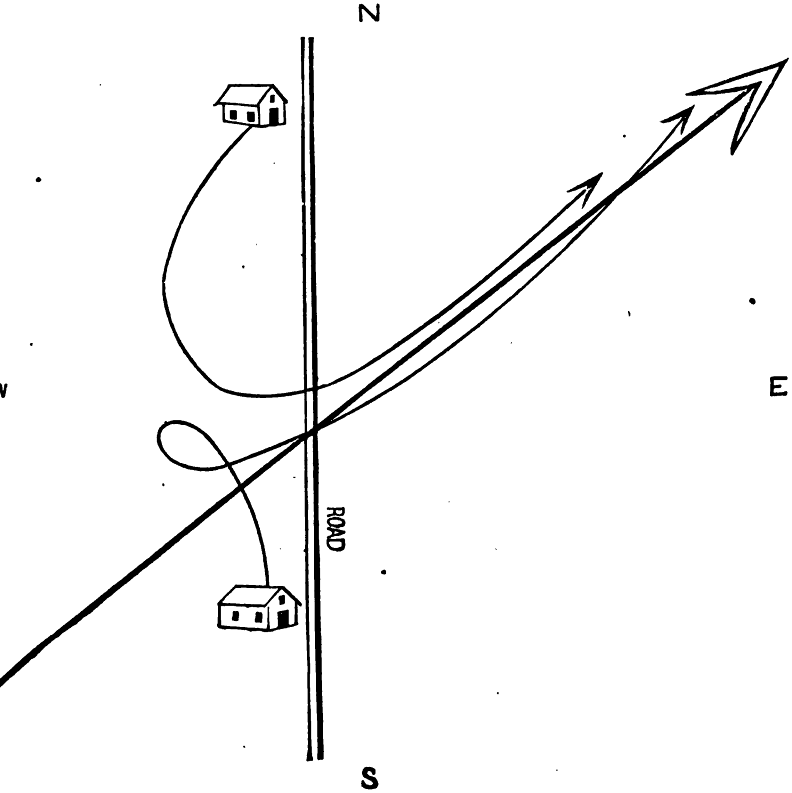
L. B. Babcock, son of J. P. Babcock, Jackson Township, section 17, witness: Hail fell before the storm as large as pigeons' eggs. Ran to get into the cellar. Cellar-door was blown over me as the house went. Came out of the cellar immediately, and was blown south. The rain then came down in sheets, with a north wind. The shutters from the house were carried three or four miles at least. Jacob Zeck got only partly down the cellar-stair and was hurt in the head.

J. P. Babcock's house was 34 by 26 by 14 feet to the eaves. The gable-end faced the wind. The house was pushed bodily toward the north, crushing the northern foundation; tore up the ground a short distance, toppled over, and went to pieces. It stood on the southeast of the storm-center.

cob Zeck, Jackson Township, section 17, witness: Was going down Babcock's cellar-
s when his house flew away, and injured my head severely.



Representation of effects of the storm at these houses.



Sketch of the effects of the storm at Babcock's and Zeck's.

Mr. Zeck's house stands on the northwest edge of the storm. It was pushed from i foundations 12 feet to the south-southwest, plowing up the ground. The windows the north side were smashed in. The windows on the south and east were blown ou A hay-stack was entirely blown away. It went, as could easily be traced, first sout southwest, and then round in a circle to the northeast. It went forty rods south b fore turning east.

The distance between these two houses was about half a mile. At this point t storm-path turned a little nearer north than northeast.

J. H. Laughhead, Jackson Township, section 16, witness: A little hail fell before t storm. It rained awfully for half an hour after it. Wind, during the rain, was fro the northwest. It was very dark. Saw no lightning.

The house of this witness stands on the northwest side of the storm-center, about on third of a mile distant from it. The fences were blown the usual way.

Levi Moothart, Cedar Township, about two miles north of the path of storm, witnes There fell the heaviest rain I ever saw; also hail as large as hens' eggs. The rain last about an hour, and the whole country was under water. The wind, during the rai storm, changed from south to west and north, and at times it was very strong.

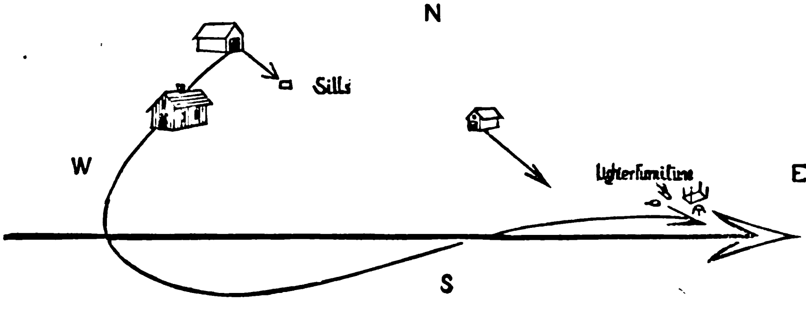
F. M. Curry, Jackson Township, section 9, tenant of John Flack's house, witnes The family went to the cellar. The house went south. No one injured. Eighteen pi blown away.

The house was pushed 45 feet due south and then went to pieces. No explosion. was situated to the northwest of the center.

E. N. Wright, Jackson Township, section 10, witness: Was on the southeast side the storm. Saw distinctly, at the distance of two miles, the tornado in funnel-sha The small end was down. Saw wood whirling. Heard its roaring after it went ea There appeared to be a mist or steam in front of it. It rose and fell. A few hailston fell before the tornado and an exceedingly violent rain after it.

Mr. Wright's house stands on the northwest of the center of the storm-path, abo fifty yards from it. A wood-house and kitchen were blown southwest. The dwellin house, a large, strong structure, was moved one inch to the east. A stove weighi four hundred and fifty pounds, and exposing to the wind a surface of 3 feet by 21 inch was pushed 12 feet to the southwest, where it was stopped by obstructions. A be weighing one hundred and fifteen pounds, not under any circumstances exposing greater surface than one square foot to the wind, and mounted 12 feet high, was brok from its fastenings and carried 60 feet south. A granary, measuring 28 by 16 by feet, and weighing, together with the grain, fifty-five thousand pounds, was carri twenty-one yards to the southeast. After plowing up the ground 2 feet in depth tumbled over and went to pieces. It was carried down a declivity, falling 6 feet. T width of the storm-track here was half a mile.

J. T. Anderson, tenant of J. C. Cunningham, witness: Was at Grand Prairie U. church, three-quarters of a mile northwest of storm-center. The wind blew so strong as to endanger the building.



Plan of ruins of Cunningham's house.

J. C. Cunningham, Jackson Township, section 11: The house of Mr. Cunningha stood on the northwest of the center of the storm-track, yet within the most viole vortex. The house was blown to the southwest; but the east door having been blo in, the house went to pieces without tumbling over, and the floor remained upon t ground. The lighter furniture, &c., was carried far to the east. The granary stood to t northeast of the house. Its contents were emptied into the house-cellar. The sills the granary had remained when it was carried away. They were afterward push to the southeast. A barn was blown to the southeast. A hog, weighing two hundr pounds, was carried five hundred yards. A cow, weighing one thousand pounds, w carried two hundred yards.

ere were four persons in the house and none were killed. The path of the storm re five hundred yards wide and nearly due east.

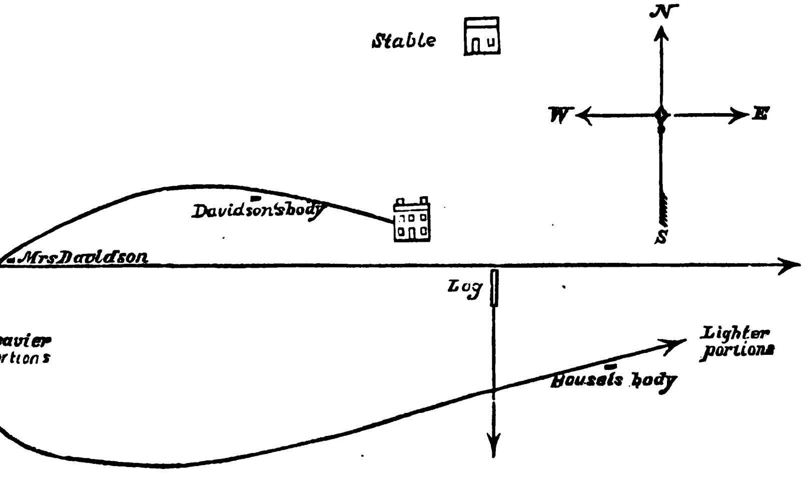
T. Carringer, Jackson Township, section 15: The house stood on the south edge ie storm. It was carried to the northeast 17 feet, going deeper into the soil as it ;. It then turned over and was blown away in fragments. The straw among the showed that the last gust came from the northwest.

siah Condit, Jackson Township, section 11, witness: No hail fell before the tor- . It rained terribly right after it. The wind was blowing from northwest as the fell. Saw no lightning.

. Condit's house stands upon the southeast edge of the storm, which here traveled ly due northeast. There seems to have been a streak of exceptionally strong north- wind, which struck the barn and corn-crib, and cut its way through the gar- fences. The center passed along the fields, producing upon fences and hedges the effects as those already described.

e next house struck was that of J. M. Davidson, Highland Township, section 7: ood precisely in the storm-center, which here, as if conscious that this was its last m in Iowa, seems to have exhausted its utmost violence. The house, 18 by 12 by et, was blown bodily from its foundations down a declivity toward a slough. It r touched the ground, but was shattered in the air. It seems to have been carried nearly due west, and then the lighter portions round in a curve to the east. The of Mr. Davidson was found twenty yards west of where the house stood. The l was blown still further in the same direction. Mrs. Davidson was carried about iundred yards west. The body of Leyden Housel was found to the southeast. The ier portions of the house were found some hundreds of yards to the west. Mr. sel's body had evidently been carried west with the fragments of the house and back to the east. Mrs. Davidson and the child escaped with their lives.

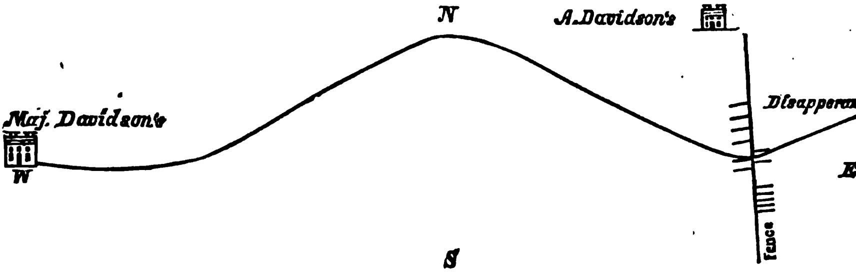
log of green water-elm, 7 feet in circumference, 8 feet in length, and weighing ast a ton, was carried fifty yards straight south. A horse, weighing one thou- and eighty pounds, was carried forty-five yards. A hog, weighing three hundred nds, was blown thirty yards. The stable and barn were blown south. An iron , with wooden handles, was carried one hundred and fifty yards. The strongest -bound machinery was utterly destroyed. The young trees in the orchard were er barked or torn out. The storm was exceedingly violent for a breadth of one lred and fifty yards, but fences were blown down for nearly a mile wide. At the e of Thomas Davidson, a quarter of a mile to the north, the wind blew so strongly the door had to be held. The north wind was evidently subsequent to the east l, because the house could not have stood such a wind.



Plan of the ruins of J. M. Davidson's house.

. Davidson, Highland Township, section 7, witness: It commenced to rain about ten wenty minutes before the arrival of the tornado. Shingles and other stuff began to with the rain. Then went out to see where they came from. Saw the tornado nt thirty rods distant. It appeared to be coming toward me. Saw it bend to the theast. It was funnel-shaped and as black as possible. It whirled. Thought it irled with the hands of a watch. It passed twenty rods to the south of the house and bent again to the northeast. When thirty rods distant from the house it suddenly disappeared. Afterward saw another funnel, not reaching to the ground, traveling toward the northeast. When first seen it appeared to be only 60 feet above the ground at its lower end. The farther it went the higher it seemed to get.

Mr. A. Davidson's house is situated one-half a mile east of where J. M. Davidson's house stood, and a little north. The shingles and other material he saw falling came from his brother's house. The following sketch shows the direction of the storm-path after leaving Major Davidson's place until it ceased to touch the earth as a funnel.



Twenty rods south of A. Davidson's house it crossed a fence, exhibiting the same appearances as those already described. I was particularly careful upon this point, because of Mr. Davidson's belief that the funnel whirled with the sun. I thought it possible that the tornado, before lifting from off the ground, might have changed its direction o rotation. But the evidence to the contrary was so striking that Mr. Davidson at once, upon my pointing it out to him, admitted that he must have been mistaken. He had not paid particular attention to the matter, and it was very dark when his observations were being made. The fence in question ran north and south. It was only thrown down for a space of sixty yards, and the boards were not carried away except in the middle. The posts remained in the ground, those on the north of the center leaning west and those on the south leaning east. The posts in the center were leaning some one way, some another. The funnel disappeared upon a knoll in the midst of a hollow about one-half of a mile in diameter. There was no *débris* deposited at this point, nor were there any signs of a cataract of water having poured down. The wheat, however, was mown as low as possible, and the ground looked as if it had been baked, according to Mr. Davidson's statement. The funnel had narrowed to a point before it disappeared.

After leaving Mr. Davidson's the tornado-cloud traveled to the southeast. Its progress was now difficult to trace, because of the little attention usually paid to a dark cloud, a high wind, and a rain-storm. Considerable time had also now elapsed since the meteor passed.

James M. Mace, Highland Township, section 8, had several panels of fence blown down by a westerly wind. A few small hail fell before the wind and a very heavy rain after it.

J. W. Haskett, Highland Township, section 9, witness: Six or eight panels of fence on my farm were blown to the southeast. A few hail and some rain fell. The wind was from the northwest when raining. Saw some lightning. Heard roaring about one-half an hour before it came. Saw funnel strike the ground. Saw it rise at Davidson's. Saw it strike the ground afterward. The wind blew very hard.

This witness's house is two miles from Davidson's.

William Dennis, Highland Township, section 10, witness: A few panels of fence blown down to the east. Small pieces of boards, shingles, and laths were dropped. It hailed a little before and rained a good deal after. The wind during the rain was from the northwest.

John W. Guthrie, Highland Township, section 11, witness: A few panels of fence were thrown down to the east.

George Wallace, Highland Township, section 11, witness: Heard roaring. It grew very dark. A high wind about one-half mile to the south of witness.

J. H. Lyttle, Highland Township, section 12, witness: Had nearly half a mile of fence thrown down. The east and west fences were blown south; the north and south fences east. Heard roaring an hour before the storm came. The roaring was louder before it came than after it was here. Did not hear it after it passed. Saw the funnel until it came within three miles' distance. The whole northern portion of the sky was covered. Saw a cloud rushing from the south and another rushing to meet it from the north. The clouds rushing north appeared to be the lowest. After the clouds came overhead could see the lowest clouds rushing rapidly from the south. These were broken clouds. Through them could see a higher current rushing from the north. A ttle hail and rain fell. The wind changed from the south to the west and northwest s the storm passed. The width of fence blown down was about one hundred and fifty ards.

Michael McGuire, Highland Township, section 12: One-half mile of fence on the arm was blown down. The chimney was blown off and some trees leveled. All was one by a northwest wind. It hailed a little and rained very heavily.

The storm now passed out of Washington County into Louisa County, traveling outheast.

Joshua Luckey, Louisa County, Union Township, section 17, witness: The path of ences blown down on my farm was about six hundred yards wide. The fences on the vest of the center were thrown north; those on the east were thrown south. A few ail fell and a smart shower of rain. Heard no roaring after it passed.

Charles Crim, Union Township, section 20, witness: Fences, two hundred yards vide, thrown down to the southeast. The roaring was very loud for an hour previous o its arrival. Did not hear it after it passed. Saw no lightning. Saw a tongue of loud shaped like a funnel hanging from the clouds. It did not reach the earth. At rst it was hanging perpendicular. Then it commenced whirling like the tail of a uspended snake.

At this point I lost track of the tornado and could not recover it, although I spared either time nor pains. Only now and again could one find a man who could give ny information even of what happened on their neighbors' farms a week or two before.

John Colton, Columbus Junction, witness: There was some hail, a brisk wind, and tremendous rain.

Mrs. Snyder, Oakland Township, section 9: Heard roaring distinctly. There fell a ery heavy rain, which continued until nearly dark.

Peter Attig, Johnson County, Tremont Township, section 22, witness: About 4 p. m. here was a terrific rain-storm, with hail as large as hickory-nuts, and accompanied vith thunder and lightning. My barn was struck by lightning. Perkins's barn was lso struck.

Lone Tree Station: About 4 p. m. there was a violent storm of rain, hail, thunder, nd lightning.

Nichols Station: There was here a high wind, with heavy rain and hail, and accom- anied with thunder and lightning.

At this point I gave up the search and took train for Illinois. Previous to describing ts effects there, the following testimony may find a place:

H. C. Vittitoe, Warren Township, Keokuk County, about three miles northwest of he tornado, witness: Saw a little south of the zenith the white under-clouds rushing n circles to a center. The gyration was contrary to the hands of a watch. The funnel ad not yet touched the earth. The wind came from the northwest pretty strong after he passage of the tornado, bringing with it a little rain and hail.

Dr. W. D. Hoffman, Sigourney, witness: Mrs. A. T. Page collected a number of the argest hailstones. When melted it was found that they had contained a quantity of wigs, leaves, dry grass, and mud, all reduced to fine proportions. Hail weighing from our to eight ounces were common. One hailstone which was shaped like an apple, meas- red 4½ inches in diameter. The roaring was heard about twenty minutes before the ail began. It rose and fell like the cannonading in a battle. During the hail the vind came from the northeast, but it was very light. Sigourney is four miles north f the storm.

Isaac Farley, Foote Town, Iowa County, twelve miles north of Keota, witness: There was very little rain and no hail, but the sound was loud and distinct.

E. R. Eldridge, Washington, Iowa, witness: Watched the tornado from the roof of house. Did not see a funnel appearance. The roaring was very loud and the cloud ery black. The cloud appeared to bend forward. The elevation of its summit was bout 35°. The distance five miles. Its summit was completely hidden by an over- anging cloud, which extended south a little beyond the zenith.

Arthur Howell, who was at Yalton, Iowa Township, five miles north of the tornado, estified that hail larger than hens' eggs fell, and a terrific rain of an hour's duration, ccompanied by incessant thunder and lightning.

Extracts from a communication received from R. L. Jay, Harper, Keokuk County, hysician:

"Was in the village of Baden, Keokuk County, German Township, three miles to he northwest of the storm-path.

"The tornado maintained an upright position. It moved rapidly at times, at others eeming to remain quite still. It was apparently about a quarter of a mile in height, nd was funnel-shaped and very dark and angry-looking. It whirled with the hands f a watch. There was a continual whirling of the clouds above the funnel. This vas observed for some time after the storm had passed. Saw no lightning and heard o thunder. It was impossible to hear thunder owing to the noise of the storm, which vas terrific. The direction of the wind was northeast until the storm had passed, vhen it changed to the northwest. Rain fell in torrents. Quite an amount of hail ell of all conceivable shapes. Three were picked up weighing one-half of a pound ach. Half an hour after the storm the thermometer stood at 92°."

G. W. Brockway, Talleyrand, witness: No rain nor hail fell here. A heavy rain fe about one mile to the north. The edge of the cloud did not reach the zenith by a fe degrees.

Extract from the Sigourney News, May 28, 1873:

"While the cyclone was mowing its path a few miles south and east of Sigourney tremendous hailstorm visited this locality. We saw one hailstone which weighe eight and one-half ounces. The hailstorm was followed by a heavy rain, after whic the sun came out bright and pleasant for the rest of the day."

Extract from the Washington County Press of May 28, 1873:

"The writer was in a street-car, half way from Moline to Rock Island, at 4.30 p. m on Thursday, when it was struck dead ahead by the most terrific wind and rain-stor we ever experienced."

S. J. Mather, editor Wilton Chronicle, Iowa, witness: Between 4 p. m. and 6 p. m. very dark cloud passed over, which poured down a very heavy rain.

Extract from the Chicago Tribune, May 25, 1873:

"At Muscatine the rain came down as if the flood-gates of heaven had been opene followed by hail. Between there and Wilton Junction, at Monona, Fredonia, an other stations along the southwestern division of the Chicago, Rock Island and Pacif Railroad, the country was flooded."

The tow-boat Victory lost her pilot-house and smoke-stack when near Buffalo, o the Mississippi. The tug Nonesuch lost her smoke-stack and pilot-house at Molin She was driven ashore.

A. H. Swan, editor of the Monmouth Review, witness: There was an exceedingl heavy rain, a little hail, and a great deal of lightning about 5 p. m. The atmospher smelt as of brimstone previously. It was oppressively hot; perhaps 95°.

The temperature and pressure on May 22, 1873, at places near the tornado:

	Davenport.		Keokuk.		West Unio	
	Bar.	Ther.	Bar.	Ther.	Bar.	The
7 a. m	29.73	64	29.64	69	29.49	61
2 p. m	29.60	77	29.51	85	29.46	65
9 p. m	29.69	66	29.71	72	29.53	64

The condition of the barometer and thermometer at West Union was obtained fro Frank McClintock, correspondent of the Smithsonian Institution, who also furnishes th following noteworthy fact: "Wind changed from the south to the west rapidly 3.45 p. m. It worked back to the south before 9 p. m." The relative humidity at—

	Davenport.	Keokul
7 a. m	94	85
2 p. m	77	54
9 p. m	94	85

We do not, therefore, overrate the relative humidity when we estimate it at 65 pe cent. at 2 p. m. The average temperature at the earth's surface in the line of th tornado at 2 p. m. was, from the above, probably 76°, but in the wooded hollows muc greater.

Mr. Jay, however, of Harper, Keokuk County, states that the temperature was 92 half an hour after the storm. The day was generally described as being very warm.

Having arrived at Prairie City, Ill., I endeavored to find out the exact locality wher the tornado first began to overthrow fences, damage buildings, &c. On the farm o James Williams, Point Pleasant Township, Warren County, there was a strong win but not sufficiently so to prostrate fences. About one mile to the east is the farm o Israel Jared, Point Pleasant Township, section 24. Mr. Jared testified as follows Saw streaks of cloud moving from the north and south toward each other before any thing touched the earth. Saw a cloud in the form and about the size of a haystac strike the ground on my farm. A few minutes before, hail of moderate size and i small quantity fell, followed, as the whirlwind was passing, by a smart shower of rai The wind, which had been southeast, changed to the west after the tornado passe It was pretty warm before, and cool after it. Heard roaring some five minutes pre vious to the arrival of the storm. Fences were blown down for two hundred yards wid They were blown toward the east. Saw some lightning. There was a heavy cloud t the north as the storm approached.

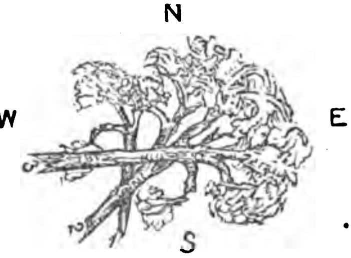
Mr. Jared's house stands about two hundred yards north of the storm-path. Th tornado was here traveling a little to the north of east.

John F. Tatman, Israel Jared's farm, testified that he saw the funnel strike the far and that he heard the roaring for a long time previous.

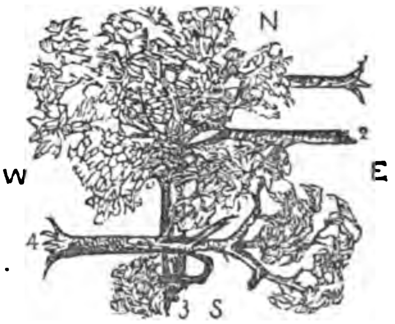
Before leaving this farm the storm had developed all the characteristics of a tornad except that the east wind was not yet powerful enough to destroy. The whirlwin then passed along a ravine full of tall timber. Nearly all the trees were uprooted o broken, but generally the latter. They appear to have had a firmer hold of the soi han those in Iowa. The breaking usually occurred about six feet from the ground nd the barking was almost entirely confined to the broken trees. The bark was torn ff both up and down from the place where the timber was broken. The trees, when ound, were seldom broken clean across. Half or more of the wood was severed, and he remainder was bent so as to allow the tree to rest upon the ground. The broken mber, when sound, invariably presented the appearance of a broom. The fibers of ach year's growth were loosened from the others and split. It was easy to obtain ieces ten feet long and as thin as a wand. This separation of the fibers had evidently een brought about by the excessive straining and bending of the tree before it fell. ach year's growth had apparently been snapped asunder by itself, beginning at the utside. The trees all lay as they had fallen, being, when once down, protected by he surrounding timber. If they had, after falling, been subjected to a wind from nother direction, so as to break them off entirely, they would have presented the recise appearances which have, by certain meteorologists, been attributed to the ac- on of electricity. Many of these broken trees were two feet in diameter. When a ee, still standing, had its bark torn off at any point, an examination generally showed hat the fibers of the tree were separated and perhaps partly severed at that point.

No. 1 lay beneath, diameter 8 inches; No. 2 lay above No. 1, diameter 26 inches; No. 3 lay above No. 2, diameter 26 inches. As the tornado increased in power the position of the overthrown trees varied more and more from a westerly direction; some weak ones lying from the south-southeast south of the center.

The following is a sketch of trees found in the center, one-quarter of a mile farther east than the above:



Sketch of fallen trees.



Nos. 1 and 2 lay beneath, diameter 6 ıches; No. 3 lay above Nos. 1 and 2, di- meter 18 inches; No. 4 lay above No. 3, iameter 15 inches.

Mason G. Buck, village of Swan Creek, itness: Saw a distinct funnel-shaped orm. It appeared to jump up and down) feet at a time. It hailed a little be- re the storm and rained a little after it. leard a roaring about twenty-five minutes before it arrived. Saw no lightning. Saw nly one funnel. Trees were blown down in my yard from the northwest. My house a half mile south of the center.

Leroy Putnam, near Swan Creek Station, witness: It looked like a top and whirled ontrary to the hands of a watch. Saw it rising and falling. My house is about half mile south of the center. It blew very strongly here. The tornado at this point as traveling east-northeast.

William Huston, Swan Township:

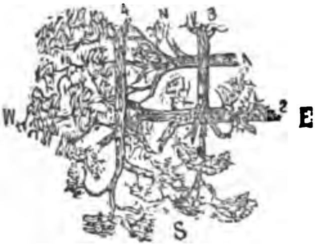
Mr. Huston's house stands on the north edge of the storm-path. The roof of the arn was blown to the southeast. A corn-stump about two inches in length was riven through the bark of a large tree, leaving its impress upon the wood.

John Worden's unoccupied house, one-quarter of a mile east of Huston's, was com- letely demolished. It stood near the center. The orchard was uprooted. Trees hich had stood one hundred and twenty yards southwest of the building lay with eir branches upon the foundations. The larger timbers of the house lay a few yards the west and north. The lighter were blown away. The breadth of desolation as here one hundred and fifty yards. At this place the tornado seems to have made ne of its sudden dips, the trees on the west and south being uninjured.

Shortly after leaving Worden's house the tornado entered the timber on the north ank of Swan Creek. It increased greatly in power and width as it did so. So long it followed Swan Creek, fences were thrown down over a space of from one to one nd a half miles wide.

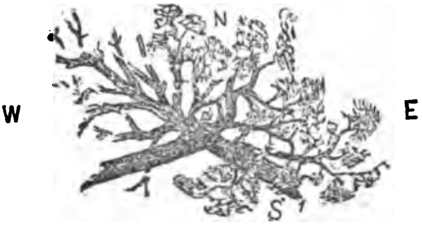
Franklin Booth, Swan Township, section 18, witness: Hailed just before the storm large as hazel-nuts, with a northeast wind. It did not rain much. Saw lightning oward the south. Mr. Booth's house stands on the north edge of the storm.

Abraham Stanfield, Swan Township, section 18: The storm-center is one-qu of a mile south-southeast of Mr. Stanfield's h The fences were generally thrown south. Amon Stanfield's timber, near the creek, the storm wr complete ruin. Three typical groups of fallen may be selected. Group I, a little north of ce Nos. 1 and 2 were blown down from the east an below Nos. 3 and 4. They were between one two feet in diameter. Group II, a little sou center, and seventy-five yards distant from G I: No. 1, blown down from the southeast, lay No. 2, blown down from the southwest. No. 15, and No. 2, 10 inches in diameter.

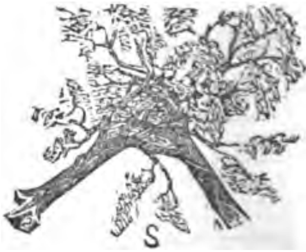


Group I.

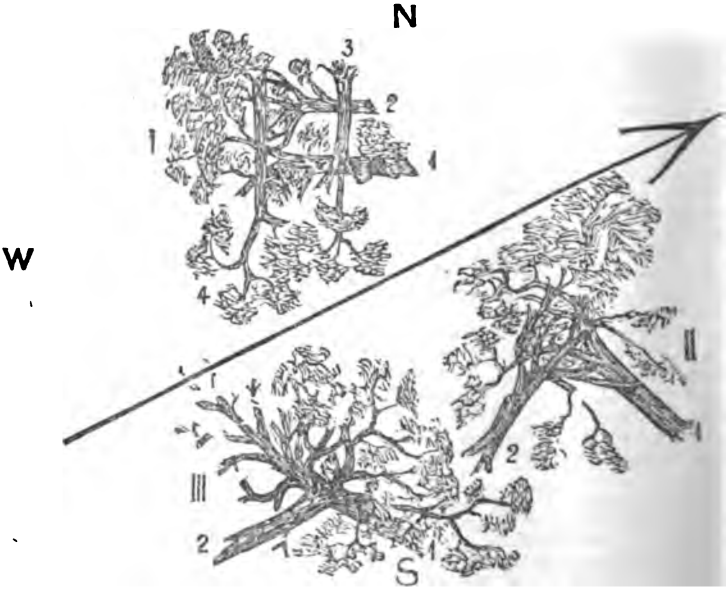
Group III, a little further south of center than Group II, and near it: No. 1, a decayed tree 16 inches in diameter, lay under No. 2, 14 inches in diameter.



Group III.



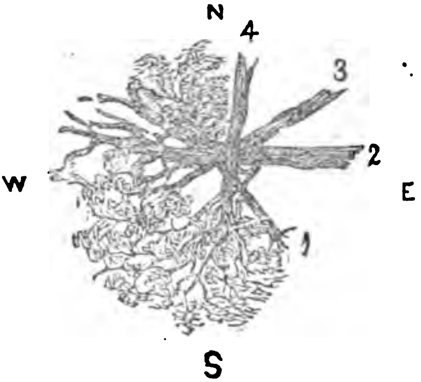
Group II.



The three groups combined.

The storm at this point overt all trees of any dimensions f width of two hundred and yards. The following group of trees was found about one-half a mile further on was just within the most violent vortex of fifty yards in width, and a little t north of the center. The trees lay as they fell: No. 1, 12 inches in diameter, the southeast; No. 2, 18 inches in diameter, from the east; No. 3, 14 inches i ameter, from the northeast; No. 4, 16 inches in diameter, from the north. was lowest, No. 2 next, No. 3 next, and above all lay No. 4.

The path of the tornado was here exceedingly well marked among the y trees. It could be followed by the eye as far as the ground permitted. They orn and bare, while all around was green. This barking of the young trees took lace within much narrower limits than those within which grown timber was verthrown. Generally they did not ex-end over twenty to thirty yards in width, nd were sometimes much less, and even lisappeared altogether. The trees exhib-ted the marks of the greatest violence on he side from which the storm came. The wigs were smashed and broken off, the ark partially removed, and even the tim-er bruised. These results were evidently he effect of a rush of missiles against he trees.



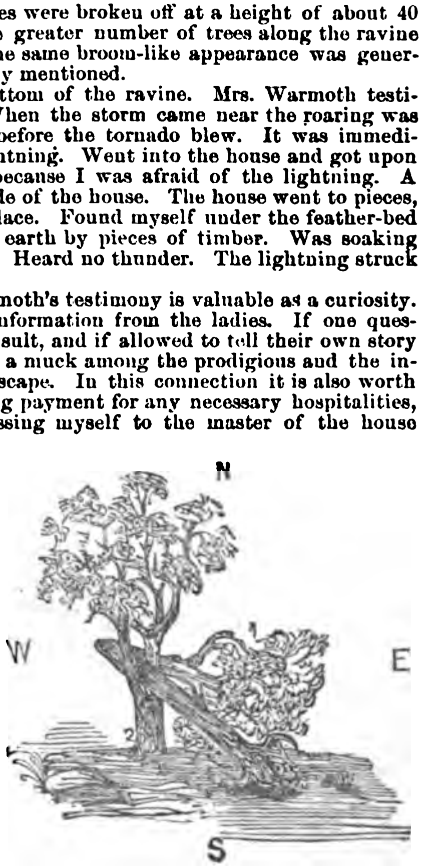
The tornado at one point suddenly nar-owed the path of extreme violence from ifty yards to twelve yards, at the same ime changing its course to the southeast. This change of direction brought it toward Swan Creek, along the northern bank of which it had hitherto been raging. Just s it struck the creek the track was nearly outh-southeast. Immediately thereafter it turned nearly due east, following the creek. The bottom of the ravine within which Swan Creek flows is about two hundred yards vide, is surrounded by steep and lofty bluffs, and was covered with large trees. Among these trees the whirlwind raved with the utmost fury, developing an energy urpassed at no other point in its career. Trees from three to four feet in diameter vere snapped or uprooted. Many large trees were broken off at a height of about 40 eet and left without a twig. By far the greater number of trees along the ravine vere thrown down from the southwest. The same broom-like appearance was gener-lly presented by the broken trees as already mentioned.

Thomas Warmoth's house stood in the bottom of the ravine. Mrs. Warmoth testi-ied as follows: Heard a roaring first. When the storm came near the roaring was ouder than thunder. A few hail fell just before the tornado blew. It was immedi-tely preceded by a very bright flash of lightning. Went into the house and got upon ny feather-bed, together with my child, because I was afraid of the lightning. A arge tree was blown down, catching the side of the house. The house went to pieces, he tree, however, keeping the floor in its place. Found myself under the feather-bed vith my child. The bed was pinned to the earth by pieces of timber. Was soaking vet. Everything was covered with mud. Heard no thunder. The lightning struck tree, depriving it of its bark.

I was unable to find this tree. Mrs. Warmoth's testimony is valuable as a curiosity. t was generally impossible to obtain any information from the ladies. If one ques-ioned them rigorously they took it as an insult, and if allowed to tell their own story hey immediately commenced running such a muck among the prodigious and the in-redible that one was glad to make his escape. In this connection it is also worth nentioning that although invariably offering payment for any necessary hospitalities, soon learned the wisdom of always addressing myself to the master of the house vhen asking for such.

No. 1 is a tree 18 inches in diameter. No. 2 is a tree 2 feet 6 inches in diameter, but orked at the height of 15 feet from the ground. No. 1 was blown from the south-ast between the forks of No. 2 and then alf broken close to the forks and blown rom the northwest until its top nearly ouched its root.

After leaving Warmoth's house the tor-ado-center crossed to the south bank of he creek, where it continued for nearly a nile farther, although somewhat increasing ts distance from the creek. It crossed to he south bank, where a smaller creek joins Swan Creek from the south. This brought t nearer to the house of A. J. Caton, Swan Township, section 15, which stands about ive hundred yards from the center of the whirlwind. Part of the roof was blown to he southeast and part to the northeast. A maller house was blown a few yards to the ortheast and inverted. A house on Mr. Caton's farm, tenanted by N. J. Reynolds, 14 by 20 feet and one story high, was carried



Group of trees near Warmoth's house.

eight yards to the northeast bodily. It then struck the ground, tumbled over, and wa blown to fragments. Its four inmates were carried from fifty to sixty yards, but no killed. It stood a little south of the center. After passing Mr. Caton's farm the to nado entirely left Swan Creek. Before tracing its further progress, it will be better t give the evidence of people living at or near Youngstown, about one mile south of th center:

Charles McCormick, Swan Township, witness: The tornado looked as large as a hous when three miles distant. A little rain and hail fell. The wind with the rain wa from the west. There was no wind to do any damage. House a quarter of a mil south of Swan Creek. Time, about 5.45 p. m.

H. W. Simmons, Swan Township, section 28, witness: The time when the tornad passed was about 5.40 p. m. Have good grounds for this assertion. A few minute before its arrival I noticed a very black cloud in the west with a lighter space on eac side of it. My house is three-quarters of a mile from Swan Creek. Did not hear th roaring very distinctly until it was nearly opposite. Then it was an awful ocean-lik roaring. Then it presented the appearance of a funnel apparently only a few rod across at the bottom. The top of it appeared to be from three to four times wider tha the bottom. Did not notice whether it entered an overhanging mass of cloud. I hailed a little when it was opposite. Fences were blown down fully a mile and a hal to the south of Swan Creek.

H. A. Folger, M. D., Youngstown, one mile south of Swan Creek: The tornado wa opposite about 5.45 p. m. Saw dark clouds in the west-northwest for an hour previou There were several bright flashes of lightning after the tornado. A few hailstones a large as bullets fell as the tornado was passing. It rained very hard for a few minute after. It was quite dark for a little time. Saw clouds rolling and tumbling. Th strongest gust came from the west-northwest.

In Youngstown a few chimneys were blown off and similar damage done. One hous was moved from its foundations to the northeast. Trees, in a few cases, were blow down, and all to the east. It is to be noted that, while at McCormick's house, a qua ter of a mile south of Swan Creek, along which the tornado passed, no damage wa done by the wind, at Youngstown, three-quarters of a mile further away, the gale wa almost strong enough to blow down houses. McCormick's house is somewhat lowe down and stands among trees.

After leaving Swan Creek the storm traveled east-southeast. The first house whic came in its way was that of Absalom Vandevere, Swan Township, section 15. He testified as follows: I have reliable information that two or three miles to the north th clouds were seen rushing south. The clouds came also from the south toward the to nado. Streaks of unusually strong wind seemed to come now and again from th south side and run into the main whirl. The wind on the north side was not nearly s strong as on the south side. Twice as much fence was blown down on the south as o the north side. Its noise resembled that of machinery, only very loud. The dimensions of my house were 36 by 42 by 18 feet.

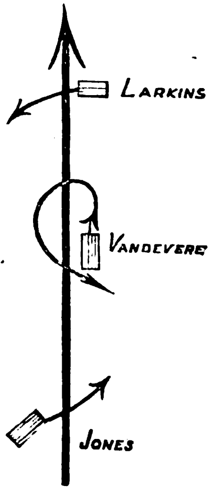
Samuel Larkins, Swan Township, section 15, witness: Was at Mr. Vandevere's hous when the tornado struck it. Heard roaring about fifteen minutes before it came When I first saw the funnel it did not touch the ground. Saw it whirling contrary t the hands of a watch, and the clouds were drawn in toward it on all sides. It di not lighten before the storm. It lightened a great deal immediately after it in th west. It did not hail nor rain. Did not see clouds in north or south. There appeare to be only a narrow strip of clouds. A McCormick reaper, weighing probably on thousand pounds, was carried ten rods from the south. Two horses were blown, th one fifty the other forty yards. An axle-tree, torn from a wagon, was carried a mil and a quarter to the southeast. A shingle was driven through a half-inch ash-board It is in the possession of a Mr. Thomas. A rafter, 8 feet by 2 by 4 inches, was drive through three hogs, and thrust into the ground a foot and a half. All three were on i when it was found. A picture-frame was picked up with the glass unbroken. Th wind blew very strongly for about two minutes.

Mr. Vandevere's house, 36 by 42 by 18 feet to the eaves, stood north and south lengthwise. It was moved due north half the length of the house, tumbled over, and blow to pieces. It stood with its north end exactly in the center of the vortex. There wer nine persons in the cellar and two in the house. One of those in the cellar was kille by a log. The trees around the house and within the narrow path of the greatest violence, all pointed to the east-southeast, the direction in which the storm was travelin

W. J. Jones, Swan Township, witness: Vandevere's house is forty rods to the north Myself and wife were in my house when it was blown away. It grew dark as midnight just then. There was a little hail before. Did not notice any rain. The hous did not go very fast.

Mr. Jones's house was 22 by 16 by 12 feet to the eaves. It was pushed entire five fee to the northeast. It then toppled over and was blown to pieces.

The arrow in the sketch should point E.SE.



ketch of storm-effects at Larkins's, Vandevere's, and Jones's houses.

The fragments in Illinois had already been gathered from the fields, rendering it more difficult to trace the ruins in their flight.

David Smalley, Swan Township, section 22, witness: There was quite a strong wind all day previous to the storm from the southeast. Saw some lightning before the storm. A little hail fell before it and a moderate shower of rain after it. The house stands on the south edge of the storm and was blown east-northeast one inch. It was very warm that day.

Edmund Jennings, Swan Township, section 22, a quarter of a mile south of the center, witness: While the storm was still in the west saw two funnels come together, the one from the north and the other from the south. They appeared to be both whirling, but contrary to each other. When they were still at a distance the sky was cloudy overhead. Their summits appeared to be lost in cloud. Saw lightning and heard thunder previous to the tornado. There fell a little hail before the storm and some rain after it. The trees, chimneys, and fences were thrown down to the northeast.

William Thomas, Swan Township, witness: The center of the storm passed a quarter of a mile to the north. An unoccupied house stood in its way. It was lifted from its foundations and then broken to pieces. Horses were carried a good way and killed. A rail was driven through one of the cattle, going in beneath her tail and coming out at her shoulder. Saw only one funnel.

Robert Wearmouth, Swan Township, witness: The storm-center passed three hundred yards to the north. It was traveling nearly southeast. Horses and cattle were blown a considerable distance. Saw two flashes of lightning before the tornado. Hail fell just before it, and as it was falling heard ome thunder. It was so dark when the storm was on us that it was impossible to ee anything flying.

Charles Thomas, Swan Township, two hundred yards north of the center and directy north of Wearmouth's, witness: The wind, which blew down trees, unroofed outhouses, &c., came from the northeast and north. Fences were thrown down nearly a mile wide.

Charles Perry, Swan Township, section 24, witness: House, 16 by 24 by 15, with gable-ends facing south and north, was carried to the southeast. There were four inmates, one of whom was mortally injured. Mrs. Perry, who weighed two hundred pounds, was carried one hundred yards and stripped of her clothing. Two horses were carried one hundred yards. Hogs had rails driven through them.

Mr. Perry's house stood near the center of the storm. The west side of the house was blown in and the house instantly broken up.

Caridan Johnson, Greenbush Township, witness: My house is three-quarters of a mile north of the storm-path. Saw no funnel-shaped appearance. Saw some lightning and heard thunder before the tornado came. A few small hail fell before the torm and a very hard rain after it.

B. A. Reid, Swan Township, section 24: Mr. Reid's house stood one hundred yards north of the storm-center. The north side of the house was not blown away, but blown down from the north. The wind had evidently driven in the windows and then burst the house asunder. Hogs, weighing two hundred pounds, were carried two hundred yards.

B. A. Reid, sr., Swan Township, section 25, witness: Saw two clouds, one in the northwest and one in the southwest, rushing together with great rapidity. A whirling commenced right where they met, assuming the form of a funnel. Saw it whirling with the hands of a watch at the distance of about two miles. These low clouds were overhung by a heavy mass of clouds. The funnel reached up to this mass. There was a little hail and a little rain. My house is less than half a mile south of the enter.

J. P. Reid, witness, Swan Township, section 25: There was incessant lightning to he northwest before the storm. Heard thunder also. When the storm was one and a half miles distant its angle of elevation was about 75°. Saw the funnel distinctly.

H. H. Hewitt, Greenbush Township, section 29, witness: Fences thrown down here or half a mile wide.

P. A. Vaughn, Greenbush Township, section 20, witness: Center of storm passed hree hundred and fifty yards south of my house. The strongest gust of wind came rom the northeast and north. Three trees, about ten inches in diameter, were carried one-quarter of a mile to the southeast.

Mr. Nichols, Greenbush Township: Mr. Nichols's house stood about one hundred and sixty yards north of the center. It appeared to have been turned over without being first pushed forward in a mass. It broke into large pieces, which were only carried a few yards. Eight persons were in the house and none of them were killed.

David Stookey, Greenbush Township, section 27: Mr. Stookey's house stands three hundred yards south of the storm-center. The corn-crib was thrown to the northeast. Mr. Stookey testified that he did not hear a great roaring, and that it was very dark.

Barney Sloey, Greenbush Township, section 26, witness: My house is forty rods south of the center of the destruction. Outhouses were damaged by a southwest wind. A wheel of a corn-planter was carried from Nichols's farm, on the north side of the storm-center, and deposited at my house, one mile distant, and on the south side of the center. A wagon-tire was carried two miles in the line of the storm. There was an ugly-looking cloud in the northwest for hours before the storm came up, and lightning was playing in it.' When the storm came near, its roar was like that of a cataract.

John Woods, Greenbush Township, section 25, witness: Heard no roaring. House is on south edge of the center. Had two miles of fences blown down; one horse carried forty rods; one cow perforated by a rail.

J. E. Gustine, Lawrence farm, Greenbush Township, section 16, directly north of Prairie City and one hundred and fifty yards to the south of the storm: When the cloud came up it became very dark, and the roaring was louder than thunder. Did not see any lightning. A little hail fell and a little rain. The lamp was lighted in the house, it was so dark.

John Van Winkle, Union Township, Fulton County, section 30, witness: The storm-center passed thirty rods to the north of the house. Remained out of doors all the time. Saw the funnel-appearance touching the ground a half mile distant. The roaring was so loud that I could not hear the breaking of the buildings. There was no crashing, but a whirring like that of a thousand threshing-machines. Everything on the south side was thrown toward the center. Most of the wood was deposited along the center. The storm lay in the northwest a long time, and during that time the wind was steady from the southeast. There seemed to be a dark cloud to the southwest, another in the northwest, and a clearer space between. The wind blew from the northwest as the storm passed.

E. G. Roe, Union Township, Fulton County, section 30, eighty rods north of Van Winkle's, witness: My house is forty rods north of the center of the storm. For an hour before the tornado arrived a heavy cloud had been lying in the northwest, with lightning playing in it. Clouds kept rising in the southwest and passing over to the northwest. From the clouds three points came down, from which rain appeared to be falling. There was clear sky between these points. The ruins of my barn were carried first a little north, then forty rods west, and then distributed along the storm-path for half a mile east. They could easily be traced, because the barn was painted red. At Joliet Creek, on this farm, the storm either widened or a branch came down the creek. The storm struck us a little before 6 p. m.

J. B. Hatch, Union Township, section 29, twenty rods to the south of the storm-center, witness: The storm struck us a little before 6 p. m. As the cloud and darkness came over, everything appeared to be enveloped in a white mist. There were no drops, but it wet everything. The carpets in the house had to be taken up and dried. The paper on the walls was covered with mud and fine-ground leaves. The strongest wind came from the southwest. Everything was collected to the center of the storm-path. Did not feel any choking sensation when surrounded by the mist. Did not feel cold. Boy felt chilly. It had been a very warm day. Saw lightning right in the storm.

An unoccupied house ten rods south of the storm-center was parted. The kitchen was carried to the north; the main body to the south.

Cornelius Ackerman, Union Township, a half mile east of Hatch's house and five rods south of the storm-center, witness: Saw storm gathering in the northwest and southwest for some time. Hail nearly the size of hens' eggs fell before the storm. A south wind took the roof off the house. A northwest wind then still further demolished it. The wind took me off my feet. My hired hand, Cornelius Rice, was thrown down by the wind and then pushed along the ground for several rods. He leaned on his elbow as he went. He first traveled north, and then in a curve round to the east, when he stopped his further progress by clinging to the branches of a tree. The ground was rather dry before the tornado. It was quite wet after it. Several hogs were transfixed with timbers. A shingle was driven into the sound butt of a white-oak beam measuring 4 by 4 inches. The darkness was black. The direction of the storm-path at this point was still east-southeast.

William McBride, Union Township, section 32, witness: Hail and heavy rain fell before the tornado. It then became black darkness. Three-quarters of a mile south from my house chimneys were blown down.

Mr. McBride's house stands apparently near the center of the storm, which here ns to have mitigated its fury somewhat. The barn-roof was blown to the north- heast. The barn itself was moved four inches to the south.

Johnston, Union Township, section 33: The wind commenced to blow very hard the south. Went into the cellar. Two small buildings were first blown to the h. The kitchen was blown southeast. The barn and other buildings went south. main building was pushed a few feet to the southwest. It grew so dark that one d not see ten feet. Some hogs and pigs were carried away, I do not know where. ie of the former weighed two hundred and fifty pounds.

r. Johnston's house stood exactly in the center of the whirlwind.

homas Poole's house stood to the east of Johnston's. It was demolished. I could see him.

ndrew Maholland, Union Township, witness: It was near 6 p. m. when the storm ick us. Felt the air to be very hot, like steam, before the storm. The wind at first ie strong from the east and was accompanied by a driving wet. The roof of the ise was blown to the southwest.

Ir. Maholland's house stands fifty rods to the north of the center.

l. S. Gorham, Union Township, section 33, forty rods south from Maholland's, and her on the north edge of the center: The house was carried entire a few yards to the thwest, struck the ground, toppled over, and went to pieces. The kitchen was ved a few yards and broke up, leaving the family upon the floor. Trees were blown wn from the northeast.

D. H. Gorham, Union Township, section 34, witness: The tornado arrived at my house 5.55 p. m. Saw the storm gather in the west-northwest one and a half hours before came. Saw a little lightning as it approached, but none after it arrived. Saw two ouds, one in the southwest and one in the northwest, with a red streak like sunset tween them. Afterward saw only one cloud, rolling forward like a wheel. Heard roaring a little before the storm arrived. It grew so dark that I could not read—a ack darkness. First there came a blow from the southeast. After that there came a ight lull, and hail as large as hens' eggs fell straight. Then there came a harder ow from the northeast. Then for three minutes there fell a perfect torrent of rain. ode out immediately, and the water on the road reached to the horse's belly. My tbuildings were damaged by the northeast wind. Fences were thrown down a mile ide.

Mr. Gorham's house stands fifty rods north of the center of the storm.

A. H. Miller, Union Township, section 35: The house of Mr. Miller stands on the orth edge of the storm. There fell a tremendous rain as the storm passed.

At D. M. Kline's farm fences were thrown down a mile wide. They were thrown oward the center from both sides. The storm at this point had greatly diminished violence.

O. Chatterton, Lee Township, section 1, witness: Heard the roaring only a few minutes efore the storm came. The wind blew first from the southwest, then from the northast, and then from the north. Saw no lightning. A tremendous rain fell about eighty ods south from the house. Thinks that this heavy rain did not extend far south. The ouncil Corner school-house was turned round.

John Schneider, Ellisville Township, had some fences blown down on the northwest ank of Spoon River.

H. Caril, village of Ellisville, witness: A very heavy rain fell during three-quarters f an hour. For six miles to the north everything was flooded. There was not much ightning. Heard a roaring, but not very loud.

Isaac Sechleider, Deerfield Township, section 7, across Spoon River: Mr. Sechleider's iouse stood near the summit of the bluffs which face the river. It measured 16 by 2 by 12. It was blown southeast three rods, and deposited on its roof. The five nmates were not much injured. The storm smashed the timber somewhat on the outheast bank.

About a mile farther on it became impossible to track the storm. Before proceeding o where it next struck, it may be advisable to insert some testimony from Prairie ity and the neighborhood. Prairie City is about one and a half miles south from he storm-path.

The editor of the Prairie City Herald testified that he thinks the storm was opposite a little before 6 p. m.

C. H. Hemenover, Prairie City, testified that oak-leaves fell during the storm, and that the wind blew very strongly from the south. He keeps a thermometer, but did not look at it that day. Thinks temperature was not over 70°.

L. B. Day, Prairie City, witness: Saw a cloud in the northwest of a funnel-shape; heard a roaring sound for perhaps five minutes. The wind blew strongly from the southeast all of a sudden, accompanied with hail about the size of pigeon-eggs. There was an undercurrent of clouds from the southeast overhead. Just as this southeast wind blew it grew very dark. After the tornado passed the wind changed to the northwest, and a smart shower fell. Then it cleared up, and the sun shone.

J. M. Kershaw, hotel-keeper, Prairie City, witness: It grew dark about 6.05 p. m.

saw clouds from southeast sent a-whirling as they struck the northwest clouds; saw continual lightning as the storm approached; heard roaring after the storm passed.

J. H. Day, Lee Township, about one mile south of the center of the storm, witness: There fell a very heavy rain, with north wind, so heavy as to flood everything in a minute. It filled a small creek so that I could not get home that night. I was one-half mile farther south than my house. The windows were smashed with hail on the north and east.

Wm. Henry, Lee Township, section 4, witness: Saw a heavy cloud in the northwest, and a less heavy one in the southeast. There was a lighter space between, but could not see the sky there. The wind blew first from the east, and damaged the outhouses. Afterward there came a northwest wind, with a terrible rain.

Samuel Taylor, Lee Township, section 20, four miles south of storm: It rained a little from southeast, and then the wind came more from the south.

A. T. Irvine, station-agent, Prairie City: The telegraph was not disturbed by free electricity during the passage of the tornado. It only ceased to work between this and Avon after the wires were broken by the wind. The wind blew from the southeast as the storm approached. It rained quite a while from the southeast. Then it changed to the southwest, still raining, and when the rain somewhat ceased, it came from the northeast.

H. M. Torseman, Prairie City, witness: Between Ellisville and three miles north of it, there fell a most tremendous rain. Logs and rails were carried into the roads by the water.

Having learned that the tornado had made another descent at Utica, near the Illinois River, I proceeded thither.

Jacob McCan, Utica, Banner Township, Fulton County, witness: Storm came about 6.30 p. m.; saw lightning and heard thunder in the northwest, where a heavy cloud had long been gathering; saw two under-clouds, one in the southwest and the other in the northwest, moving toward each other. They were wind-clouds. Above them was a dark-green cloud. The two clouds were whitish, and were boiling up. The sky to the east was clear at this time, the storm coming up as an isolated, solid mass of cloud. The wind commenced to blow hard from the southwest. Then there came a brief lull; then a second blow from the northwest. With the northwest wind there came a blue smoke. It came in through the broken window. It came right in the fury of the gale. It was all dark in front of the window with it. This northwest wind was pretty cool. It hailed a little before the storm, and it rained very hard after it.

Nearly all the houses in Utica were more or less damaged, and several were blown down. The village stands on the bottom-lands of a small creek running into Illinois River. High bluffs rise all around. The tornado was here traveling southeast. It came down about one-half mile to the northwest of Utica. It continued to overthrow trees until it reached Illinois River, which is distant from Utica about one mile. It then turned abruptly to the northeast, traveling up the stream, which it then followed for about fifteen or more miles in a straight line, but much farther counting the bends in the river.

Charles Rice, Fulton County, Banner Township, one and a half miles from Illinois River, just at the commencement of the wooded swamp bordering the river, witness: The wind blew down two trees in my orchard. It was a north wind. The storm-center was at least one-half mile nearer the river. There were a few hail at the commencement, and a heavy rain afterward.

M. B. Murray, Peoria County, Timber Township, section 31, and one mile distant from the river: The storm blew down a great deal of timber along the banks. Some trees were also blown down on the other side of my farm, on the summit of the bluff. A heavy rain immediately followed the wind.

A. King, Peoria County, Timber Township, section 31, witness: My house is one and a quarter miles from the river to the northwest. My fences were blown down.

A. Dempsey, village of Kingston, Peoria County: A few chimneys were blown off in the village, and similar damage done. Two cows were killed by lightning. Some timber on the river was blown down.

Kingston is situated on the bottom-lands of the Illinois River, and close to it.

Mapleton, Peoria County: Here there fell hail as large as hazel-nuts, and a very heavy rain, accompanied by thunder and lightning. It occurred after 6 p. m. William Harrison testified that he saw trees in considerable numbers which had been blown down in the storm of May 22.

Pekin: The ferryman testified that there was a big rain-storm with high wind. The smoke-stack of his boat was somewhat damaged by it. Mr. Tazewell stated that the high wind came first, then the hail and rain.

Fred. Netz, Washington, Illinois, witness: It blew very hard about 6.15 p. m. There was a heavy rain.

Thomas Handsacker, editor of the Washington Herald, Washington, Illinois: The storm came at 6.10 p. m., or very nearly. I watched the cloud. Did not see any funnel-appearance nor any whirling. There was a very heavy rain, accompanied with thunr and lightning. The wind blew down numbers of trees in different directions, but ostly from the southwest. Heard that at Eureka there was a considerable storm.

I accordingly went to Eureka, but found nothing of importance. Before closing the atement of facts, a few data may be adduced, showing the widely-extended area over hich the storm, or portions of it, manifested itself:

Special dispatch to the Chicago Tribune.

OTTAWA, ILLINOIS, *May* 23.

The tornado which passed through Central Iowa seemed to have spent its force here st evening. An enormous quantity of rain fell in an incredibly short time, and the ains on both railroads were delayed for hours. Bridges were swept away and much amage done. Ottawa lay directly in the line in which the storm was traveling when ceased to follow it.

Special telegram to the Chicago Times.

SPRINGFIELD, ILLINOIS, *May* 23.

A very heavy storm of wind, rain, and hail passed over this city last night.

Special telegram to the Chicago Times.

PEORIA, *May* 24.

The severe storm of Thursday night did much damage in Princeville, this county. narrow strip of wind passed through Southern Village, almost literally demolishing e house of Oliver Moody.

The following is an extract from a letter by B. Whitaker, chairman of the meteoro- gical committee, who resides two and three-quarter miles east of Warsaw, Illinois, in orrespondence with the Chief Signal-Officer:

"On Sunday, May 22, about 3 p. m., or perhaps a little later, while planting potatoes the field, a roaring noise was heard a little west of north. Being familiar with the oise of railroads, steamboats, &c., was at a loss to account for it. We stood and stened five minutes. The continued roaring noise indicated great force. A perceptible dication of its moving more to due north was manifest. After resuming our work e noise was heard for some time—ten or fifteen minutes or more. A dark cloud ccupied the heavens in that direction, the point or foremost end moving to the north- ast. The motion of the cloud was not easily indicated, on account of intervening and djacent clouds. My place of observation is two and a half miles due south of the gnal-station Keokuk, and two and three-quarter miles due east of Warsaw, and the istance to the path of the hurricane at least sixty miles."

Mr. Whitaker adduces a number of names of respectable parties in support of his re- arkable statement as being co-witnesses.

Such is a statement of the facts connected with the Iowa and Illinois tornado of May 2, 1873, so far as I have been able to collect them. I spared no pains in order to render t scientifically complete, sometimes traveling miles under a fierce sun, and with a emperature among the nineties, in order to obtain the evidence of one man. The nformation given by any witness by no means represents the number of questions sked him. These were extensive and calculated to extract all the knowledge on the ubject possessed by those under examination. For instance, the following question vas addressed to all and sundry: Did you observe any pointed objects, such as light- ing-rods, posts, &c., tipped with flame, during the progress of the tornado? But being niformly answered in the negative, has not been formally inserted in the statement of acts. Also, a description of the sound was exacted from all witnesses, but only a few ypical ones have been inserted. I regret this at present, because I have learned from xperience that very important questions may attach themselves to a description of he sound. While interrogating parties the utmost vigilance was exercised to prevent hem from giving conclusions for what they saw and heard. This was a very troublesome point, and caused the interrogator to appear in many cases in the highest degree ude; while it also excluded from these pages the names of persons who observed ccurately, but who are unable to distinguish between the *esse* and the *ergo*.

No opportunity was allowed to pass of obtaining information. Whether at home, on he road, or in the field, all met were questioned. Of course by far the majority could ive no information worth taking.

It will be noticed that the statement of facts for Iowa is much more exhaustive and nstructive than that for Illinois. There are several reasons for this:

1. Some weeks had already elapsed since the tornado, and its traces were becoming apidly obliterated, both in the memories of the witnesses and upon the surface of the arth.

2. It was later in the day when it occurred, thus hiding the light of the sun more

completely by the tornado-clouds as they approached, and rendering it more difficult t observe accurately their forms and proportions.

3. The storm in Illinois seems to have been of a somewhat different character fro that in Iowa, by its form rendering observation more difficult.

It may perhaps not be deemed irrelevant to mention that the best information wa uniformly obtained from those who are not natives of the localities in which they liv but have settled there from other States or other countries. The reason of this ma perhaps be that Iowa and Illinois are but recently settled, and that consequently th native-born population have not yet had time to arrive at years of discretion, wherea the original settlers are in the prime of manhood or verging toward old age.

With regard to the angles of elevation given, it must be borne in mind that they ar only approximations. Very few indeed of the witnesses have accurate conceptions angles. I generally made them point in the direction in which an object was seen, an so estimated the angle.

CALCULATIONS AND CONCLUSIONS.

The idea of a tornado in general.

The tornado consists essentially of a rapidly-ascending current of air. This involve two other functions: first, a rushing in of the air at the under part of the ascendin current or column; secondly, an outrushing at the upper. Upon the former of thes functions, combined with modifying circumstances, depends the peculiar character an career of the undercurrents and of the clouds they bear; upon the latter, combine with the same circumstances, the proportions and direction of motion of the uppe currents and of the heavy masses of clouds they bear. There appears to be nothing i the nature of the tornado itself which can determine the motion of either the upper c under current more toward any one point of the compass than toward the others. Thi direction of motion relative to the ascending column depends upon the direction an velocity of motion of the latter, and of the atmospheric strata in which the influx an efflux take place, modified, to some extent, by the differing velocities of revolution c the surface of the earth at different parallels of latitude, by the form of the earth' surface, and by the variation in the constitution of the atmosphere. If the tornad column, and the atmospheric strata which it penetrates, move in the same direction an with the same velocity, the influx and efflux will take place in nearly equal quantit on all sides of the column. If they move with different velocities the directions c exaggeration and diminution of the influx and efflux can be calculated in the same wa as the direction of a wind-vane on a ship's mast, giving the directions and velocities c the motion of the wind and of the ship.

General idea of the tornado of May 22, 1873, in Iowa.

A huge, dark cloud covered an area at least thirty miles in diameter. Under th southwest edge of this cloud there moved a perfectly opaque funnel-shaped appearance, reaching from the ground to the clouds. Toward its base, the wind, in spiral rushed violently from all sides, overthrowing, when in immediate proximity to c within the opaque vortex, whatever opposed its progress. Toward its summit, wher it disappeared in overhanging horizontal cloud, long streaks of clouds rushed i spirals from all directions. Viewed from a distance they appeared to come from opposite directions, and move swiftly toward each other at right angles to the observer' line of vision. Between the surface-current and these centripetal clouds the ai doubtless obeyed the same forces, and rushed in spirals with ever-increasing velocit toward the opaque funnel.

Under the remainder of the lofty cloud which defined the limits within which th outspreading of the ascending air was taking place, and which lay chiefly to th northeast of the rising column, there raged a tremendous storm of hail and rai accompanied by incessant and brilliant electrical phenomena.

More particular description.—Dimensions of the meteor, and of the centrifugal or upp current.

Mr. B. Whitaker, (p. 1081) when sixty miles distant, saw the summit of the dark clou in the direction of Washington, Iowa. Of this fact there can be little doubt, th time agreeing precisely. In order that its summit might barely reach the level of th rational horizon the cloud would require to have an elevation of $\sqrt{(4000)^2+(60)^2}=0.4$ mile nearly. Mr. Whitaker simply states that a dark cloud occupied the heavens i that direction. This supposes that it reached to a considerable distance above th horizon. If we suppose it only reached 15° above it an additional elevation of ove xteen miles, or a total height of between sixteen and seventeen miles, would be quired.

Mr. Whitaker's evidence as to the immense height of the cloud receives corroboraon from the evidence of a great many of the witnesses, who state that they saw the ack cloud in the west for hours before the tornado came. Since the storm traveled irty miles per hour, if the cloud was seen two hours in advance at an elevation of ° above the rational horizon, and it would scarcely have attracted attention when wer, then it must have been sixteen miles in height.

The data for determining the horizontal extent of the cloud are not very precise. here is a general concurrence of the witnesses that it reached only a few miles to e south of the tornado, and that very little rain or hail fell there. G. W. Brockway . 1072) testified that at Talleyrand, about two and a half miles southeast from the ack of the tornado, there fell neither hail nor rain, and that the cloud did not reach e zenith. Isaac Farley (p. 1071) testified that at Foote, Iowa County, fifteen miles rth of Talleyrand, there was but little rain and no hail. E. R. Eldridge (p. 1071) testied that at Washington the cloud reached a little beyond the zenith. At Lone Tree and icholl's Stations I found by personal inquiry that there was a very heavy thunderorm. These stations lie eighteen miles north-northeast of Washington. It is evient, moreover, that the cloud must have extended considerably beyond the area over hich it rained. It is probably, therefore, no exaggeration to assign thirty miles as ne diameter of the cloud from south-southwest to north-northeast.

Arthur Howell (p. 1071) testified that at Yalton, five miles north of the tornado, three ell a heavy rain of about an hour's duration. The storm traveled about thirty miles er hour. This would give the cloud an extent in the direction in which the storm raveled of more than thirty miles. There is a general agreement among the witesses that a little hail fell some few minutes before the advent of the funnel, and a ittle rain immediately after its passage. The whole appears to have occupied at least hirty minutes in passing. This would give the cloud at the funnel a width of at east fifteen miles in the line of its progress. Probably it was considerably greater. Ve may, therefore, safely conclude that we are within the limits when we assign to he centrifugal cloud an average horizontal diameter of thirty miles.

I have no data for determining the elevation of the under side of the centrifugal loud beyond what is involved in those for measuring the altitude of the centripetal. There must, however, have intervened a very considerable space between the two. For if there was nothing intervening there could be nothing to prevent the under, and specifically lighter, air from taking the shortest way up. There could be no reason why it should first rush to a center, ascend there, and then rush from it.

Dimensions of the centripetal current.

The data for determining these are still less precise than the preceding, but yet sufficiently so to give a more definite idea than any mere description in general terms.

H. C. Vittitoe (p. 1071,) saw, when three miles to the northwest of the tornado-path, white underclouds rushing to a center a little south of the zenith. A. Vandevere, whose evidence may be here adduced, although it refers to the tornado in Illinois, states: I have reliable information that two or three miles to the north the clouds were seen rushing south. The clouds came also from the south. Nearly all the witnesses who watched the approaching storm tell of clouds seen darting toward each other from opposite directions. It was impossible, however, to obtain anything like accurate measurements, owing to the distances being unknown. If we suppose that the centripetal clouds had a horizontal diameter of four miles, we may obtain a determination of elevation from the data given by E. R. Eldridge, (p. 1071.)

At four miles' distance, the point where the lower clouds seemed to join the higher appeared to him to have 35° of elevation. Deducting two miles from the distance for the assumed diameter of the centripetal clouds, we have an elevation of 1.4 miles.

J. W. Plumber (p. 1062) gives the angle subtended by the centripetal clouds when several miles distant, at about 45°, and the angle of elevation at about 35°. If we assume the distance to have been five miles, we should have over 4.6 miles as the diameter of the centripetal clouds, and 3.5 as the altitude, which latter figure is, perhaps, though not necessarily, too great.

The assumed distance of five miles refers to the base of a perpendicular from the summit of the cloud to the ground, and it is probably not too great since it corresponds to only ten minutes' motion of the storm. These clouds attracted attention by the great rapidity of their motion toward a common point; but their velocity gradually diminished from the center to their outer limits. They undoubtedly commenced the journey with a velocity by no means striking, and in much smaller and less dense masses. Hence the probability is that they extended much farther than they were observed with sufficient attention to leave an impression upon the memory. Moreover, the current in which they originated must have been in motion toward the vortex before they were formed, because they owed their existence to the circumstances connected with that motion. It is, therefore, probable from these data that in assigning ten miles as the diameter of the centripetal current at the altitude of these clouds we do not overrate it.

There is good reason for believing that the diameter of the centripetal current was not less at a considerable elevation than at the earth's surface, because of the many obstacles there opposed to its progress. Yet R. L. Harper testifies that, at Baden, three miles northwest of the storm-center, the wind changed from northeast to northwest as the storm passed. This implies that it blew at least some few minutes from a northerly direction, and also with force sufficient to attract attention. Suppose it blew 20 minutes in all from a northerly direction, we should have, since the storm was traveling thirty miles per hour, a diameter of nearly twelve miles for the surface centripetal current.

It is here necessary to the force of the reasoning to call attention to the fact that the wind, on the 22d of May, was, in accordance with the barometric gradient, southerly.

William P. Lisk (p. 1048) states that about twenty minutes before the arrival of the tornado the wind blew from the north. This would give a diameter of twenty miles, that is, assuming the northwest quadrant to be as extensive as the northeast.

M. Williams, (p. 1048,) a very careful witness, states that about twenty-five minutes after the passage of the whirlwind, the wind came again from the southwest. This also gives a diameter of twenty miles. The witnesses (see Keota evidence, &c.) generally testify that hail fell from 15 to 30 minutes before the whirlwind, and rain for as long a period after. They further, almost unanimously, say that the wind was easterly with the hail and westerly with the rain. If we assume 20 minutes as the duration of each of these winds, we again obtain twenty miles as the diameter of the inrushing winds at the earth's surface.

If the disturbing influences were not much greater at the earth's surface than at a higher altitude, the dimensions of the whirl should, within the limits of the centripetal wind, owing to the absence of friction, vastly increase as we ascend. Moreover, since the funnel was first formed at a considerable elevation, and since it touched the ground with a narrow point, and merely incidentally, as it were, since it for long distances ceased to strike the earth, and yet proceeded with undiminished energy; since, in short, both the originating and sustaining sources of its power seem to have mainly existed high in the atmosphere, we have the strongest reasons for concluding that the horizontal dimensions of the centripetal current were very much greater at its more elevated portions than at its base. It would therefore appear to be not unlikely that the diameter of the centripetal current was not greatly exceeded by that of the centrifugal.

Since writing the above I have received a communication from Frank McClintock, correspondent of the Smithsonian Institution, West Union, Iowa. He states that there was a thunder-storm in the morning and another in the afternoon; that the wind changed from the south to the west rapidly at 3.45 p. m., and that it worked back to the south before 9 p. m. This change of the wind agrees with the time at which the tornado passed Washington, Iowa, allowance being made for the interval which must elapse before the atmospheric disturbance could travel over the one hundred and twenty intervening miles. This change of the wind may, however, have been due to the thunder-storm mentioned. We are not, therefore, entitled from this solitary instance to conclude that the tornado had a radius of one hundred and twenty miles, although it renders it somewhat probable that it did.

The following is also a late communication. Capt. J. W. Stewart, of the steamboat Victory, states:

The tornado occurred opposite Buffalo, Iowa. The time was approximately about 4 p. m. The sky-light, pilot-house, and chimneys were blown overboard. The wind came in three heavy gusts, accompanied by very heavy rain, in fact, almost a water-spout, and the darkness was intense. The duration was not more than five or seven minutes.

The dimensions of the funnel.

The height and size of the opaque funnel varied, as seen by the eye of an observer. At times it barely touched the ground with a narrow point, at others it stood on a broader base, while for long distances it ceased to touch the ground altogether. The clouds into which its summit disappeared, appear not always to have preserved the same elevation. These changes, however great they may have seemed to the eye-witnesses, are yet in themselves insignificant when we realize that this funnel-shaped phenomenon was the base of an ever-widening column ten to fifteen miles high.

The data for calculating the dimensions of the visible portion of the funnel are more numerous than precisely accurate. In criticising them, it is to be remembered that the apparent height depended not merely upon the distance, but also upon the fact that on account of the inclination of its sides a greater portion of the funnel was seen by observers at the distance of a mile or two than by those nearer.

To Mr. R. L. Jay, the funnel when three miles distant appeared to be about one-fourth mile high.

M. Williams (p. 1048) states that when the funnel struck the ground the fences for 60 yards were carried away. It does not appear probable, however, that the base of the funnel was 60 yards wide at this point. But suppose we assume that it was, and also assume that the width of the summit was five times that of the base, which his description warrants. When at the distance of 300 yards the angle of elevation was supposed to be about 75°. From these data the distance of the witness from the base of a perpendicular from the edge of the summit would be 180 yards. This gives an elevation of 672 yards.

Sam Brunt testifies (p. 1049) that the breadth of the funnel, when on his farm, appeared to be about 100 feet.

Wm Davis (p. 1050) places the angle of elevation at 15° when half a mile distant. This gives an elevation of 235 yards.

Fred. Tollman (p. 1050) at 70 yards distance estimated the angle of elevation of the summit of the lower funnel at 60°. This gives an elevation of 121 yards.

Matthias Gengler (p. 1052) from an elevation of 200 feet and a distance of one mile estimated the angle at 55°. This gives an elevation of 2,580 yards.

Matthias Hotel (p. 1053) viewing it from the same distance and direction, but from a lower level, gave the angle at from 55° to 60°. This may be regarded as identical with the last.

Eli Walker (p. 1053) gave 30° at the distance of one and a half miles. Hence we have an elevation of 1,524 yards.

E. Stout (p. 1053) one and a half miles, 15°, and elevation of 707 yards. This refers only to the lower funnel.

Rev. J. P. Coffman (p. 1060) one mile, 25°, and elevation 821 yards.

F. Brown (p. 1061) one and a half miles, 15°, and elevation 707 yards. Mr. Brown estimated the breadth of the top at five times that of the base.

J. W. Plumber, (p. 1062,) three-fourths mile, 25°, and elevation 615 yards.

John Maughlin, (p. 1062,) 200 yards, 15°, and elevation 54 yards.

R. M. Stevenson, (p. 1063,) 700 yards, 35°, and elevation 490 yards.

The smallest of the results is 53 yards, and it may be safely discounted, because, at the distance of 200 yards, the darkness was great and the wind very strong. The time for observation also in such a position, with the storm directly approaching, was brief. The most reliable results are those obtained from observations taken on the south side of the storm-path, and at a distance of at least a mile from it. There the base-line could be accurately determined, and ample opportunity was had for calm observation. I therefore value the data on the subject of elevation afforded by Matthias Gengler and Matthias Hotel above all others. Their elevated positions gave them a splendid opportunity of watching the magnificent spectacle. The tornado was moving steadily along North Skunk River, without jumping up and down and skipping from side to side. Eli Walker and E. Stout, while occupying a position otherwise good, could not so well determine the distance of the meteor, because it was approaching them. Besides, the figures of E. Stout refer only to the lower funnel. These four witnesses watched the meteor at the same time. I therefore conclude that the tornado column was, from a favorable position, visible at some parts of its course to a height of between one and two miles.

In this connection it should be remembered that the data furnished by E. R. Eldridge (p. 1071) gave an elevation of one and a fourth miles to the cloud which he saw bending forward, but did not recognize as funnel-shaped.

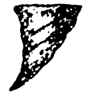
Wherever there was evidence of the funnel having touched the ground there was, to a greater or less breadth, what I have designated as the vortex of extreme violence, varying from 100 yards in breadth to nothing. Without having positive evidence, and notwithstanding that there was everywhere a gradual diminution of violence from the center to the circumference except in the remarkable phenomenon of streaks or arms, and no abrupt transitions, I could not help concluding that the path of greatest violence was identical, or nearly so, with the diameter of the base of the funnel when it touched the ground. This would give it an average diameter of about 30 yards. The witnesses are generally agreed that the summit was several times wider than the base. The exceptional case in which two funnels are superimposed will hereafter be treated. If we assume that the visible top was five times the diameter of the base, we have, say for the altitude of one mile, a diameter of only 150 yards. I think, however, that, owing to its great elevation and the optical delusion connected therewith, and the general belief of the spectators, the funnel was, at the very utmost, only a few hundred feet high; the diameter of the summit was very much greater.

The changes seen in the funnel.

Some observers saw only one funnel; others saw two funnels superimposed, with the narrow ends together, and the smaller one beneath; while a good many saw two and even three funnels, side by side. The evidence on all these points is beyond question. At first I was inclined to believe that two or more funnels had actually touched the ground and traveled side by side. The sketch of the storm by R. F. Cambell seemed to favor this explanation. It shows a protuberance on each side of the funnel, which looks like an inceptive funnel. The fact that a second funnel should travel along on the southeast side of the main one without disturbing the symmetry of the action of the latter, as exhibited by the ruins, did not appear altogether incredible, for it is abundantly evident from the statement of facts that the damage was done by a wind blowing in the path of the tornado when the black funnel hovered above or slightly touched the ground. Thus an incipient funnel, moving along the southeast side of the main funnel, and occasionally making a dip, would produce no appreciable discord in the disposition of the ruins. An insuperable objection to this theory was found in the unanimous testimony of the eye-witnesses that the funnels approached each other and combined to form one. Another objection was found in the lack of unity thus introduced into the conception of the magnificent whole. Finding this explanation untenable, I endeavored to think the possibility of smaller auxiliary funnels, each of them a perfect whirl, moving in spirals nearly or altogether identical with those pursued by the confluent winds. This I found to be more difficult than the first. The chief objection was the total lack of a conceivable cause of the existence of these smaller whirls. The second was the peculiar circumstance that while one observer saw two funnels, another in the same position saw only one, or saw two superimposed with the smaller ends together. No possible arrangement of two independent funnels with the smaller ends down could produce the optical illusion of two funnels superimposed, with the smaller ends together. I found what I believe to be the key to the difficulty while considering Mr. Marbourg's delineation of the two funnels joining in one funnel, (p. 1065.) The other observers who saw two or more funnels evidently had the whole of their attention confined to these, and did not observe what was above them. He saw the two combine at what he estimated an altitude of fifty feet and form one. Another witness, at the same place and time, saw only one funnel. At Lancaster, some saw only one, others saw two superimposed, and others saw two side by side, and all at the same time. There was, therefore, an unavoidable necessity for some explanation which could reconcile these antagonistic appearances.

Explanation.

There is excellent evidence to show that the funnel moved at its base with a sort of pendulum motion; that it seemed to stand still for a moment and then to bound suddenly forward. The evidence on this point is so general that we need not recapitulate it. But we have no reason for supposing that this oscillating motion extended to any considerable distance above the ground, for it is only in the want of homogeneity of the atmosphere and the resistance opposed to the free course of the winds by the earth's surface, that we can find a cause for this pendulum motion. Let us suppose that the funnel is over a well-watered and well-wooded ravine, with its path at right angles to it. It is evident that the air at some distance above the ground will offer much less resistance to the forces drawing it into new paths than that on the surface, where the friction is so important an element. In the forward march of the tornado the base would thus be somewhat left behind. The warm, moist air of the ravine would increase this tendency, on account of its specific levity. The funnel would become bent thus:



But the inrushing winds follow the path of least resistance toward the area of greatest rarefraction. The bending, therefore, cannot proceed far, before the southwest winds, whose direction of motion is carrying them away from the base of the inclined funnel, will find less resistance and a shorter path toward the greatest rarefaction, by striking up into the nearest point in the side of the funnel.

A streak of rarefaction great enough to produce condensation is thus generated. This arm of the funnel, affording the shortest way for the winds, will increase with rapidity. The other will decrease, becoming mainly confined to the northwest winds. Meanwhile the intervening air will become rarefied and set in motion; the two arms will suddenly unite, and the funnel present again its original proportions. These transformations must take place within a brief space of time, for the tornado is traveling at the rate of half a mile per minute. When we consider, in addition, the darkness, we will be at no loss to conceive why these two branches should present the appearance of one funnel with its smaller end down, and why, to a less favorably situated or more superficial observer, the whole should appear as one.

One difficulty yet remains to be obviated. Since the arm moves forward in a spiral to the center, and the velocity of the inrushing winds at the funnel far exceeds one hundred miles per hour, how is it possible for the observer, in the darkness, to notice the appearances distinctly? Mr. Marbourg gives the distance between the two arms at 200 feet. This space would be traversed in one second by winds of so great velocity, and the condensed vapor would fill the whole space before it had time to disappear. The very velocity itself would render distinct vision difficult. We must not, in short, confound the path of the winds with the winds themselves. While the winds were rushing up in a slanting and curving direction along these arms, the arms themselves might be moving forward with a much less rapid motion. If it were possible to determine the inclination of these arms to the perpendicular it would aid in calculating the force of the wind. Mr. Marbourg stated that the distance between the bases of the two arms was 200 feet, and the height, when they joined together, 50 feet. He gave 80 to 100 feet, however, as the height, to the editor of the Washington County Press. His own delineation favors the belief that the height was greater than 50 feet. He could easily judge of the distance between the arms, but was very liable to be mistaken in estimating the height. The error, therefore, will probably not be great if we assume that the funnels joined together at the height of 100 feet. This would give these arms an inclination of 45°.

The direction in, and the velocity with which the tornado traveled.

From its starting-point on South Skunk River until it reached North Skunk River, a distance of ten miles, the tornado traveled in an east-northeast direction. It then turned a little south of east and followed the course of that river for two miles. It then went east-northeast until it came to Rock Creek, when it turned a little west of north and followed the course of the creek for a short distance. It then traveled northeast until it ceased to touch the ground three miles from Keota. After lifting itself from the ground it traveled about east-northeast, striking again at Westchester, Washington County. From this point until it reached Enoch Wright's, a distance of over nine miles, its course was nearly straight, varying between northeast and east-northeast. Its course then became very crooked, bending in curves from northeast to southeast, and *vice versa;* but on the whole traveling east until it came within a mile of the confines of Washington County, when it made a decided turn to the southeast. Here its path lay down the declivity toward the well-wooded ravine of Goose Creek. When within half a mile of the creek its traces became so feeble that it was impossible to track it farther. It was at this point, within one and a half miles of Iowa River, the course of which is here nearly parallel with that of the tornado. The crookedness of its path reached its maximum within the last half mile of its career, before ceasing to touch the ground, as a black funnel at A. Davidson's farm, Highland Township. Within this half mile it bent first a little to the southeast, then to the northeast, then to the southeast, and again back to the northeast, when it disappeared.

After leaving Crooked Creek, at the commencement of its career in Washington County, and until it reached to near Goose Creek, the tornado traversed an elevated, well cultivated region, almost totally devoid of trees and water-courses. There was apparently nothing in the configuration of the ground over which it passed which could account for its changes of direction. These changes, moreover, were not generally abrupt, the tornado sweeping in graceful curves from one direction to another. It is to be noted, however, that the curving of its path commenced after it came within the influence of the moister, warmer air of the Iowa River, and that the general deviation of its course from the northeast direction, which it had on the whole hitherto followed, led it down the valley of the Iowa River.

In order to determine the velocity with which the meteor traveled, it was necessary to obtain the precise time of its arrival at different points. The difficulty of obtaining precise time in an agricultural district is always considerable. In addition, no one thought of looking at his clock or watch; hence, although every witness was questioned on this point, there were but few who could even approximate to the time. The majority thought that they had a remarkably definite idea when they could tell between what hours it occurred. Reliable time, it is believed, was obtained at least at two places in Iowa, at Wolfden school-house, Lancaster Township, Keokuk County, and at A. McKee's house, section 23, Cedar Township, Washington County. The times obtained at these places were corroborated by the testimony of those likely to be best informed. The tornado struck the school at 2.15 p. m.; it arrived in section 23, Cedar Township, at 3.10 p. m. The distance between these places in a straight line is twenty-seven miles. This gives a velocity of 29.4 miles per hour. The crookedness of its course, though not great, would bring its velocity along its path to thirty miles per hour at least.

The direction of the centripetal winds.

The wind blew in spirals toward the center of the vortex, the direction of revolution being contrary to the hands of a watch throughout the whole course of the storm. The evidence in support of this, as given in the statement of facts, is overwhelming, and recapitulation unnecessary. The mere fact that all who had an opportunity of seeing the funnel saw that it was circular is sufficient to prove that it was a whirlwind, for on no other hypothesis could the circular form be accounted for. Then the witnesses, almost without exception, saw this funnel whirling contrary to the hands of a watch. Then the illustration of the position of the ruins of the houses and of the fallen trees, &c., proves beyond a doubt that a merely centripetal wind could not have done these things. Again, that the wind was not blowing in circles round the center is sufficiently demonstrated by the fact that everything, except within the most violent vortex, was thrown toward the center. The ruins invariably lay most thickly there. The only form of motion capable of producing these effects is a mean between the circular and the direct centripetal, to wit, the spiral. The illustrations give copious ocular demonstration that such was the case. The ruins of houses, whenever they could be distinctly traced, proceeded in a curve toward the center, which apparently was always reached before the completion of an entire revolution. This does not imply that the centripetal winds never performed a complete revolution before reaching the center, but only that from within about 100 yards of the center this did not take place. Ruins carried from that distance seemed generally to reach the center in about two-thirds of a revolution. This led me to assume that at about 100 yards from the center the wind generally made an angle of about 25° with the tangent. This gives a centripetal component compared with the circular as .42262 is to .90631.

Besides its horizontal motion, the wind had necessarily an ascending motion, which reached its maximum at the center and its minimum at the circumference. The necessity for this lies in the proof of the centripetal motion of the wind; otherwise the centripetal motion of the wind would require to double itself at half the radius from any point toward the center. This would soon give it a motion infinitely great, which is absurd. There would also be no means of escape for it at the center. We have, besides, ocular demonstration. To a great many excellent witnesses the funnel presented the appearance of a screw with its thread running upwards. In addition, all objects within the sphere of the tornado seem to have been partly lifted, partly pushed forward. We have seen that at A. Gibson's house the arms made an angle with the perpendicular of probably about 45°. Since these arms, as there is every reason to believe, were inclined in the normal direction of the winds, which is that of least resistance, we are justified in assuming that in the black funnel itself the inclination of the winds to the horizon was at least as great, and probably greater.

The velocity of the wind.

This is a very difficult topic. The task would have been much easier if we had been dealing with a horizontal wind merely. If even the perpendicular and horizontal components were invariable, the hope of a tolerably accurate solution of the problem would be much greater; but while the former decreases from the center to the circumference, the latter increases. Neither is it possible to do more than approximate to the relative strength of these components at any point. In order that no chance of a solution might be lost, I collected the following heterogeneous data:

1. A school-house, weighing 30,000 pounds, was pushed 25 feet from its foundations. The surface exposed to the wind = 360 square feet + the roof, which had a slant of 45°, (p. 1049.)
2. A beam, 14 feet by 2 by 4 inches, weighing 25 pounds, was carried 35 yards, and driven into black mold 3 feet 9 inches, at an angle of 35°, (p. 1050.)
3. An iron sausage-machine, 6 by 8 inches greatest exposure of surface, and weighing 15 pounds, was carried away, (p. 1054.)
4. An oak tree, 3 inches in diameter, was perforated by a board 6 by 1 inches and (probably) 8 feet in length, (p. 1057.)
5. A hog, weighing 400 pounds, was carried a mile and a quarter. A cow and horse were carried 400 yards, (p. 1058.)
6. A horse-power machine, weighing 2,400 pounds, and exposing a surface of 2 square feet, was pushed forward 6 yards, (p. 1058.)
7. A post, 8 feet long and 4 inches in diameter, and which had been driven 3½ feet into the soil, was pulled out by the wind , (p. 1059.)
8. An elm fence-board, 8 feet by 6 by 1 inches, was driven into the soil 4 feet, at an angle of 45°, (p. 1060.)
9. A door, exposing a surface of 18 square feet, was held by four men against the wind, (p. 1063.)
10. A house, exposing 280 square feet to the wind, having a floor of 480 square feet, and weighing 20 tons, was pushed 6 feet from its foundations. It was then lifted over the tops of trees 20 feet high, (p. 1063.)
11. A heifer weighing 700 pounds was carried away, (p. 1063.)
12. A house presenting to the wind a surface of 176 square feet without the roof, and weighing 10 tons, was carried 24 yards while falling 3 feet, (p. 1064.) The wind struck it nearly on the end.
13. An oak sill, 16 feet by 8½ inches, and weighing 300 pounds, was driven 4 feet into

ck loam at an angle of 45°. It was carried 25 yards northeast with the house, and
yards east after parting from the house, (p. 1064.)

4. A granary, exposing 128 square feet of surface, and weighing 60,000 pounds, was
shed 14 feet, (p. 1064.)

5. A plank 16 feet by 1 foot by 2 inches, was driven 4 feet into the soil at an
gle of 45°, (p. 1064.)

6. A corn-sheller, weighing 640 pounds, was carried 400 yards, (p. 1064.)

7. An oak board, 4½ feet, 4 by 1 inches, was driven through an oak post 4 inches in
meter, (p. 1066.)

18. A house, exposing a surface of 392 square feet, + the slanting roof, and weigh-
20 tons, was carried forward 18 feet while falling 2 feet, (p. 1066.)

19. A house, exposing 533 square feet, and weighing about 25 tons, was pushed from
foundations, (p. 1068.)

20. A beam 14 feet by 6 by 2½ inches was driven 3 feet into the soil in a slanting di-
tion. Its weight was 50 pounds, (p. 1066.)

21. A stove, exposing a surface of 3 feet by 21 inches, was pushed 12 feet, (p. 1068.)

22. A granary, exposing a surface of 256 square feet to the wind, and weighing
,000 pounds, was carried 21 yards while falling 6 feet, (p. 1068.)

23. A bell, exposing a surface of 1 square foot, weighing 115 pounds, and suspended
feet high, was carried 60 feet, (p. 1068.)

24. A hog weighing 200 pounds was carried 500 yards, (p. 1068.)

25. A green log of water-elm, 8 feet long by 7 feet in circumference, and weighing
000 pounds, was carried 50 yards, (p. 1069.)

26. A horse, weighing 1,080 pounds, was carried 45 yards, (p. 1069.)

It will be better to treat all similar examples together, and first let us examine the
ta concerning the houses.

If we estimate the static friction of a frame house upon a stone foundation or upon
sts firmly fixed into the ground, and to which it is nailed, at one-half the weight of
e house, it does not seem likely that we shall err by excess. Upon this basis it is
sy to calculate the minimum velocity of a horizontal wind necessary to push it from
s foundations. The difficulty is that we are dealing with a wind having a perpen-
cular component to its velocity. If the wall of the house was perfectly smooth, and
nce the air is nearly perfectly elastic, the only force exerted upon it by a wind blow-
g at any angle to its surface would be perpendicular to that surface. Moreover,
hatever force the perpendicular component may exercise upon the wall, owing to its
ughness, must have upon the house the effect of an overturning rather than a lift-
g power. But, since friction is independent of extent of surface, this overturning
ower would not assist in overcoming friction. The fact, also, that the houses, while
eing carried bodily through the air, were not made to spin round on an axis by this
erpendicular component, there being then no resistance, beyond inertion, to motion in
circle, would seem to prove that its effect was not great. It would, therefore, appear
hat an approximation may be made to the velocity of the horizontal wind by simply
alculating upon the given assumption of the relation of weight to friction the min-
mum force required to push these houses from their foundations. The following are the
esults for the given cases:

1. Pressure per square foot 41.7 pounds. Velocity of wind 91.3 miles per hour.
10. Pressure 71.4 pounds. Velocity 119.5 miles.
12. Pressure 56.8 pounds. Velocity 106.6 miles.
14. Pressure 234.3 pounds. Velocity 216.5 miles.
18. Pressure 51 pounds. Velocity 100.9 miles.
19. Pressure 46.9 pounds. Velocity 96.8 miles.
22. Pressure 107.4 pounds. Velocity 146.6 miles.

The roofs in these calculations have been neglected when the wind struck the side
f the house, because if the wind was ascending at an angle of 45° it would not
trike the roof at all, and even a much less angle of inclination would produce a com-
aratively small effect; for if the wind were blowing horizontally 70 per cent. of its
otal force would be exerted perpendicularly to the roof. This 70 per cent. would be
esolved into two components of 70 per cent. each, or of 49 per cent. of the force of the
vind, one of which would add to the weight of the house and consequently increase
he friction by one-half its amount, while the other would aid in overcoming the
riction. Thus, even in the case of a horizontal wind exerted upon a roof sloping at
5°, only 24½ per cent. of its total amount is effective to aid in overcoming friction;
hat is, neglecting the friction of the wind against the roof.

Only one of these buildings was not, in addition to being pushed from its foundation,
arried away, viz, case 14. It, however, was pushed through a dense mass of tough
ubbish, and its sides were bent from the perpendicular. Owing to its small surface
nd great weight the force of the wind exceeded the minimum required to push the
uilding from its foundations less in this case than in any of the others. Hence we
ave the great velocity of 216.4 miles per hour, or of 317.4 feet per second, in a horizon-

tal direction. It is also probable that in this case the kinetic friction was greater than the static, and that it increased every moment until the building came to a stand.

In the case of the other houses the maximum velocity of the wind was by no means necessary to push them from their foundations. They were in addition shot forward as if from a cannon, without touching the ground while almost grazing it, and at the same time maintaining their normal position. We have the testimony of one eye-witness that the house went like the railroad; of another that it went like lightning. Since the house in the former case only traveled 40 yards, (p. 1063,) and in the latter only 24 yards, the above expressions would appear to justify the assumption that the acceleration of the houses could not have been less than that produced by gravity, or 32 feet per second. This would require a force double of that necessary to overcome friction on the assumed basis. This gives in case 12 a pressure of 113.6 pounds, or a velocity of 150.7 miles per hour.

There is yet another way of calculating the velocity of the wind from these houses. We have seen that in several cases they went forward in a well-nigh normal position, close to the ground, and falling as they went.

The perpendicular component of the wind's force exerted upon the side of the building should, we have seen, if effective, tend to make the building revolve, and so throw it out of its normal position. Since this did not take place we assume that the force was not effective. If, therefore, we find by comparison of the force required to impart motion to a body sufficient to enable it to travel over the horizontal distances given, while the force of gravity is drawing it through the perpendicular spaces given, that it is unreasonably great, we shall have good grounds for concluding that there was somehow a lifting power exerted other than that due to the perpendicular component of the force of the wind.

Let us examine case 12. The house falls 3 feet while traveling 24 yards. In the time during which it traveled, therefore, the motion of the house due to the force of the wind was 24 yards or 72 feet, while that due to the force of gravity amounted only to 3 feet; that is, the acceleration caused by the wind was 24 times greater than that caused by gravity. Now the force is as the square of the acceleration. Hence, if no lifting power had been exerted, the force of the wind must have been 576 times that of gravity. This gives a total pressure upon the side of the house of 5,760 tons, or 32.7 tons to the square foot, which is absurd, for the force generated by a difference of pressure cannot exceed that generated by a difference of a whole atmosphere, and that amounts only to about 3,350 pounds per square foot. We are, therefore, irresistibly drawn to the conclusion that the houses, while being driven forward, were partially supported by the wind. We may learn how this was accomplished by studying case 10. The house was first pushed from its foundation for 6 feet, then turned upon its edge, and afterward lifted over the tops of trees 20 feet high. Probably the trees were so bent as to allow the house to ascend at an angle of 45°, thus reducing the height to be ascended to about 16 feet. The problem is how to apply a wind in order to generate the force required. We have the evidence of L. W. Low, (p. 1050,) that as soon as his house turned up on its edge, the flooring flew to the roof. This is probably the usual procedure in similar cases, and its cause is this: as soon as the edge of the house is lifted the wind rushes in, and finding its further progress barred, becomes instantly compressed by the wind in rear. It thus exerts over the whole interior of the house a pressure nearly equal to that exerted upon one side of it by the wind. If the house is a weak one the immediate result is that it is burst asunder. If it is a strong one, as it evidently was in this case, the compressed air, acting on the one side on the ground, and on the other side on the inside of the house will, if the compression is sufficiently great, lift the house. The area of the floor of the house in question was 480 square feet, and its weight was twenty tons. The pressure per square foot exerted perpendicularly to the area of the floor, required, in order to lift the house, was therefore 83.3 pounds. But the force actually exerted did not alone suffice to lift the building. It must have raised it in a very brief period to a height of 16 feet; for the action of the wind urging it forward was yet in full operation. If we suppose that it occupied one second in ascending these 16 feet, the lifting power exerted must have been double that of gravitation, or 166.7 pounds per square foot. Moreover, by the hypothesis, the force in these calculations has to be applied perpendicularly to the base. But actually it was not, the house being tilted up on its edge. Some of the power of the wind would also be lost by escaping through openings. Further, as soon as the house was lifted from the ground the resistance to the wind, and therefore its compression in the interior of the house, would be in a great measure removed. A pressure of 200 pounds per square foot would appear, therefore, inadequate to accomplish the work; that is, a pressure of the wind, or a velocity of two hundred miles per hour.

It is readily perceived that a body which is being accelerated by the wind will, if it partially presents its under surface to it, have the action of gravity upon it counteracted according to the extent of the surface exposed, &c. Such, I conceive, was the manner in which the houses, while traveling forward, were in the main partly relieved of the effects of gravity.

The extreme difficulty of obtaining even an approximation to the velocity of the ind is very appreciable in these calculations. In my opinion the best case is that of 4, because of its remaining firmly on the ground. The total weight of itself and connts was also easily obtained. I therefore conclude that since the wind in this case ad a velocity exceeding two hundred and sixteen miles per hour, that it had a vecity equally great over a large portion of its path, and at particular points somemes greater.

A horse or a cow of 1,000 pounds weight does not probably expose a greater surface the wind than 12 square feet. Many cows and some horses of this weight were cared long distances. The lifting force of the wind, therefore, must in these cases have xceeded 1,000 ÷ 12 = 83.3 pounds per square foot, and its velocity 129.8 miles per our perpendicularly.

21. A stove weighing 450 pounds and exposing 7½ square feet of surface was pushed 2 feet. Estimating static friction at one-half the weight the pressure must have been 0.7 pounds per square foot, and the velocity 78.3 miles horizontally.

25. A log of water-elm, exposing a surface of 17.8 square feet and weighing 2,000 ounds, was carried 50 yards. It was probably barely lifted from the ground, if it as carried, because it did not strike deeply into the soil when it stopped. Its path ould not be traced by marks left on the ground. The lifting power of the wind, in rder just to balance gravity, must have been 112.3 pounds per square foot, representg a perpendicular velocity of 149.8 miles. It may be asked how a perpendicular ind was possible close to the ground. The answer in regard to the log is that the orizontal wind would become compressed between the bulge of the tree and the round. In that case, however, the surface exposed is not so large. The whole bears mple evidence of a terrific but incalculable wind.

3. An iron sausage-machine, exposing a surface of 48 square inches, and weighing 15 ounds, was carried away. The lifting power must have exceeded 45 pounds per quare foot, which corresponds to a perpendicular component of 94.8 miles.

6. A horse-power machine, exposing a surface of 2 square feet, and weighing 2,400 ounds, was pushed along the ground for 6 yards. The machine lay close upon the round, allowing very little scope for lifting power. The static friction could not ave been less than one-fourth the weight. Allowing one-fourth the weight of the achine for the lifting component of the wind, which is undoubtedly an exaggeration, here still remains a pressure of 225 pounds per square foot, horizontally, or a velocity f two hundred and twelve miles per hour.

2. A beam, exposing a surface of 7 square feet, and weighing 25 pounds, was driven nto the ground 3 feet 9 inches, at an angle of 35°. The area of the end of the beam was 8 square inches. A columbiad 10-inch shell, when filled, weighs about 100 pounds. At he distance of 100 yards such a shell penetrated compact earth 33 inches. Its velocity t the time of impact would be about 1,200 feet per second. The earth into which the eam was driven was black mold, which had never, beyond the depth of a few inches, een disturbed by the plow. It was wet at the time. If we estimate its resistance at alf that of compact earth it is not likely we shall overrate it. The columbiad shell n these premises would have penetrated the mold 66 inches. The area of a great ircle of the ball is 78.54 inches. The weight, therefore, for the square inch of resisting surface amounts to 100 ÷ 78.54 = 1.27 pounds. The weight of the beam per square nch of its end is 25 ÷ 8 = 3.1 pounds. We have, therefore, the following equation:

$$\frac{1.27 \times 45 \times (1200)^2}{3.1 \times 66} = X^2$$

when X is the velocity of the beam in feet per second, = 634 feet. This gives the beam a velocity of 432.3 miles per hour, which is evidently erroneous, for it was accelerated to this enormous velocity within a space of 35 yards. Gravity acting through this distance could only have produced a velocity of 82 feet. Since the force is as the square of the velocity, the following equation gives the force of the wind upon the beam:

$$\frac{(775)^2 \times 25}{(82)^2} = \text{force} = 2{,}233 \text{ pounds pressure.}$$

Since the surface upon which this force was exerted did not exceed 0.7 square foot, the above pressure has to be increased by one-fourth its amount in order to obtain the pressure per square foot. The result is therefore evidently very erroneons.

Calculations from similar data give like stupendous results. Perhaps, however, the apparently prodigious velocities imparted to these flying timbers may point to the fact that at some elevation above the ground the velocity of the wind was vastly greater than at the surface. It may be also that the timbers were carried to a great elevation, and thus owed a large part of their rapidity of motion to gravity. There is also much uncertainty concerning the resistance of soils. I shall, therefore, leave the remaining data uncalculated, as involving too many unknown quantities.

The amount of the precipitation.

It was impossible to obtain more than generalities on this head. There were no rain-gauge measurements so far as I could learn. At Davenport, however, a few miles from where damage was done on the Mississippi, there fell, on May 22, 1.35 inches, as shown by the signal-service reports. From the description of the rain to the north of the funnel, in Washington County, a greater quantity than this must have fallen at many places. It is not, therefore, likely that we shall overestimate the amount when we assume that two inches of rain fell over an area ten miles in width. Since the tornado traveled thirty miles per hour, this gives a rain-fall per minute of $\frac{2\times(10\times\frac{1}{2})\times3097600\times9\times144}{1728}=$ 23,232,000 cubic feet.

Tornado dynamics.

A cubic foot of water weighs 1,000 ounces. The weight of water which fell per minute was, therefore, $\frac{23232000\times1000}{16}=1{,}452{,}000{,}000$ pounds. It is not, probably, an exaggeration to assume that this mass of water fell on an average 6 miles or more. This gives a horse-power of $\frac{1452000000\times(6\times5280)}{33000}=1{,}393{,}920{,}000$ generated by the falling water.

From the calculations of the velocity of the wind, it is not probable that, when we assume, at the distance of 100 yards from the center, an average velocity of 120 miles per hour, we overrate it. The angle (p. 1088) which the wind made with the tangent was probably about 25°. The wind, therefore, on these bases, enters a cylinder of 100 yards radius at the rate of 50 miles per hour or 4,400 feet per minute.

From the calculations of the height of the centripetal current, we have seen that it probably extended over two miles. Let us assume that its height was two miles. Let us assume also that the velocity with which the wind entered the cylinder was equally great throughout its length. We have then the following data for calculating the quantity of air which enters this cylinder of 100 yards radius, or 628.318 yards circumference per minute. It amounts to $(628.318\times3)\times4{,}400\times(2\times1{,}760\times3)$ cubic feet $=$ 87,582,502,656,000 cubic feet. Since this volume is calculated from the mechanical effects or force of the wind, and since the relation between the force and the velocity of the wind is calculated for the average pressure, it matters not in calculating the mass of the above volume of air what the barometric pressure was at the distance of 100 yards from the center. The difference of pressure due to elevation must, however, be calculated. Since the average pressure at sea-level is about thirty inches, at an elevation of one mile about 24.60 inches, and an elevation of two miles about 20.20 inches, and taking into account the correction due to the elevation of the country over which the tornado passed, 24 inches would be about the mean pressure up to two miles of elevation. The density of the air varies with the temperature. From the data given on page 1093, the temperature around the tornado must have been, at a fair exposure, about 76°, but was in deep-wooded ravines no doubt much greater. Since the temperature diminishes 1° for every 300 or 400 feet of elevation, we may assume the average temperature to have been within the limits of the centripetal current about 60°. The relative humidity (p. 1072) was about 65 per cent.

The weight of a cubic foot of air, at a pressure of 24 inches, a temperature of 60°, and a relative humidity of 65 per cent., is 426 grs., or thereabout. The total weight of air, therefore, entering the column per minute amounts to $\frac{87582502656000\times426}{7000}=5{,}330{,}$-020,875,922 pounds. This weight of air moves by hypothesis at the rate of one hundred and twenty miles per hour, or of 170 feet per second. This velocity is acquired from the acceleration due to gravity in falling through a space of 481 feet. The power, therefore, generated by this mass of air moving with the given velocity amounts to $\frac{5330020875922\times481}{33000}=77{,}689{,}092{,}161{,}166$ horse-power.

The latent heat of evaporation amounts to about 1,000°. Consequently the condensation of 1,452,000,000 pounds of vapor is accompanied by the evolution of $1{,}452{,}000{,}000\times1{,}000$ calorics or pound-degrees of heat. The specific thermal capacity of air, as compared with water, is as .237 to 1. The number of degrees, therefore, which this amount of heat would raise 1 pound of air, is $1{,}452{,}000{,}000{,}000\times\frac{1000}{237}=$ 6,126,582,278,481 degrees. But the pressure remaining the same, air expands $\frac{1}{491}$ part of its volume for every accretion of 1 degree of temperature. This amount of heat would, therefore, expand 1 pound of air, $6{,}126{,}582{,}278{,}481\div491=12{,}477{,}764{,}315$ times. A cubic foot of air at 30 inches pressure, 60° temperature, and having a relative humidity of 65 per cent., weighs 538.6 grains. A pound of such air, therefore, occupies $7{,}000\div538.6=12.99$ cubic feet $=$ or very nearly 13 cubic feet. A pound of air, therefore, in doubling its volume must, the pressure remaining 15 pounds per square inch, raise a weight of $13 \times 144 \times 15 = 28{,}080$ pounds through 1 foot. The total amount of work, therefore, performed by one pound of air, while expanding under a pressure of 15 pounds per square inch to 12,477,764,315 times its original bulk, is $12{,}477{,}764{,}315 \times 28{,}080$ foot-pounds. This amount of work accomplished per minute demands $\frac{12477764315 \times 28080}{33000} = 10{,}617{,}443{,}089.8$ horse-power.

We thus see that the power generated by the condensation of the amount of vapor estimated as having been precipitated is much less than that calculated to have been produced by the velocity of the centripetal winds. Theoretically this power should be diminished by the amount of expansion counteracted by the removal of so large a mass of vapor. Practically, however, it seems probable that this removal of vapor, while increasing the specific gravity of the air, yet when taking place with great rapidity serves rather to increase the rarefaction.

The horse-power required to raise 5,330,020,875,922 pounds to a height of five miles per minute amounts to $\frac{5330020875922 \times 5 \times 1760 \times 3}{33000} = 4{,}264{,}016{,}700{,}737.6$ horse-power.

These figures convey a better idea of the tremendous power of the tornado than any mere verbal description could do. They also show that the power evolved by the condensation of vapor, while enormous, is by no means sufficient to supply the whole energy developed by the tornado. We must therefore look for another source of power. This is no doubt to be found in the destruction of the atmospheric equilibrium by an abnormally-warm southerly current flowing under a much colder and consequently specifically heavier stratum of air. This brings us to the consideration of the general atmospheric conditions under which the tornado originated.

General atmospheric conditions.

An area of low barometer existed in the Mississippi and Missouri Valleys on the 20th, 21st, and 22d of May, which moved very slowly northward. This induced a southerly current, abnormally warm for the season, over a large portion of the interior of the continent. The result was a series of violent local storms, or spasmodic atmospheric convulsions, along the whole southern declivity of low barometer. These storms were generally accompanied by hail, and always by lightning. They reached a climax in the tornado, which is the subject of this paper, and in that which simultaneously devastated a portion of Kansas. The circumstances under which these terrible meteors arise are, therefore, easy of comprehension. They are the same as those which produce the beneficent thunder-shower, only they exist in greater intensity. The warm southern current, drawn toward the center of low barometer, passes under much colder and heavier air. So long as the greater specific gravity of a given volume of the upper stratum of air, which is due to a lower temperature, is balanced in the lower stratum by the greater density, consequent upon greater pressure of the same volume of air, so long may the atmosphere remain in a state of unstable equilibrum. Any disturbing cause may, however, destroy this state of unstable equilibrum, because the moment the pressure upon the underlying warm air becomes equal to that upon the upper stratum, it becomes the less dense, and, therefore, specifically lighter. Consequently, as soon as an opening is broken through the upper strata, the state of unstable equilibrium is immediately destroyed, and a powerful ascending current formed. It is manifest that the state of unstable equilibrium may continue until the density arising from the lower temperature exceeds that arising from the greater pressure. The moment this occurs, the unstable equilibrium is destroyed. The nearer the atmosphere approaches to this condition, the more intense will be the consequent convulsion. It seems probable that in the case of tornadoes this total destruction of equilibrium is a frequent, if not a constant, accompaniment.

The electrical phenomena.

On this subject there is a general harmony among the witnesses. In the lofty centrifugal cloud there was incessant thunder and lightning; but very little, if any at all, in the centripetal cloud and the funnel. One object, a tree, was struck in the path of the storm; but the discharge took place a half hour before the arrival of the funnel. The lightning-rod said to have been melted on Widow Dogget's barn might have been struck long before, and only noticed then because it was blown down.

There was no evidence of electrical action upon the trees, which were peeled and shivered by the storm, although there was that broom appearance where the trees were broken, which has been referred to the action of electricity. This, however, was clearly due to the straining of the tree before it broke.

No one saw any objects tipped with electrical light during the progress of the meteor. The telegraph was not interrupted until the wind blew down the wires.

The electrical phenomena must, therefore, be regarded as merely secondary, as the result of the very rapid condensation of the vapor of water due to atmospheric disturbances arising from other causes.

Explosion from rarefaction.

It is the generally accepted opinion that in tornadoes houses are frequently burst asunder when the center of the whirlwind comes over them. This is supposed to be accomplished by the great rarefaction, which is said to exist in the center, suddenly relieving the air within the houses of a large portion of atmospheric pressure. The air thus relieved of pressure immediately expands and blows the house asunder as with gunpowder. There was not, so far as I was able to learn, a single case in which a house was so destroyed. The houses were invariably demolished or blown from their foundations by a wind blowing in a certain direction. They were generally pushed or carried a considerable distance bodily, floor and all. After striking the ground with the foremost edge they turn partially over, thus exposing the floor to the wind. The wind being obstructed by the wall of the house resting on the ground became immediately compressed by the pressure from behind. The floor, unable to stand this pressure, went upward, and the whole interior of the building became subjected to a strong pressure due to the compression of the air. This pressure was more than balanced on the side struck by the wind. On the other sides there was nothing to resist it, and the house was accordingly burst asunder. Some of the houses, which were carried forward, evidently reached the center before striking the ground. Traveling with rapidity, they would cross the narrow interval of calm in the eye of the tornado, if such there be, in a small fraction of a second. Being then struck by a contrary wind they were shattered into fragments and dispersed. Such may have been the case with the houses of M. Davidson and Peter Marsh.

Some houses went to pieces the moment the doors and windows were blown in. This takes place by the same kind of explosion as that mentioned above, and which is due to the law that fluids press equally in all directions. If a window is blown in on the windward side of the house, and there is no outlet for the inrushing wind, the whole interior of the house is immediately subjected to a force equal, or nearly so, to that of the wind. Explosion accordingly takes place. In a case of explosion of this kind the floor of the house generally remained, and once at least the windward side of the house had merely fallen forward, when the other sides had left it. We have, therefore, ample proof of explosion by compression, but none whatever of explosion by rarefaction. When the tornado was raging with full fury no house could possibly stand on its foundations until the center came over it. If the tornado was not strong enough to blow down a house before it reached the center, the house remained standing, or was demolished by the winds in the rear of the storm-center.

The belief that at the center of the tornado there exists a rarefaction almost amounting to a vacuum, is the product of the formerly widely entertained theory that tornadoes are mere whirls of wind, generated by some such mechanical agency as the meeting of two opposing currents. According to this theory the low barometric pressure towards the center is the result of the centrifugal force generated by the whirl throwing the air away from the center. Now, that we know that the whirling motion is merely a result impressed upon the winds rushing toward the center of low pressure by secondary causes, our views respecting the amount of rarefaction in the eye of the tornado must undergo a change. Without doubt, the pressure there reaches its minimum, because thither the winds tend. That the progress of the inrushing winds is delayed by centrifugal force is certain, and as soon as the centrifugal force becomes equal to the centripetal the wind will cease to be accelerated toward the center. At that point they will ascend circling, and losing part of their circular motion by friction will be drawn nearer the center until it becomes the focus of most rapidly ascending winds.

The fact that there were no evidences of the bark of trees having been torn off by the sudden evaporation of the juices of the trees, due to the relief from pressure, has already in the statement of facts been sufficiently insisted upon.

The temperature at the center.

A great many witnesses felt somewhat cold as the storm passed over them. The temperature is easily calculated. We have assumed, from the data, an average temperature of 76° on the surface of the ground, and a relative humidity of 65 per cent. This gives a dew-point of 63° or thereabout. This sudden decrease of 13°, together with the wet, is sufficient to account for the coolness experienced.

The amount of rarefaction necessary to produce this diminution of temperature.

The lowering of the temperature at the center of the tornado is due to the work performed by the air in expanding under diminishing pressure. The amount of this expansion, and consequently of the diminution of pressure, is easily obtained from the equation $\frac{a+t}{a+t_1}=\left(\frac{v_1}{v}\right)^{x-1}$, (Zeuner's Grundzüge, p. 131,) where a = co-efficient of expansion = 491, t = initial temperature — 32, t_1 = final temperature — 32, v = initial volume, v_1 = final volume, and x = the relation between the thermal capacities of the air with constant volume and with constant pressure = 1.41. The initial temperature in the case of the tornado = 76°, and the final temperature 63°. Consequently, $t = 76 - 32 = 44$, and $t_1 = 63 - 32 = 31$. Let us take $v = 1$. Then $\frac{491+44}{491+31} = \left(\frac{v_1}{1}\right)^{1.41-1}$, or $\frac{535}{522} = v_1^{\ .41}$, or $v_1 = \left(\frac{535}{522}\right)^{\frac{1}{.41}} = 1.8219$. A cubic foot of air, therefore, expands in passing from the circumference to the center to 1.8219 cubic feet. But the pressure is inversely as the volume. Therefore, since the initial pressure was 28.5, $\frac{1x285}{1.8219}$ = the pressure when the dew-point is reached and the funnel commences, = 15.69 inches. This gives a diminution of 12.81 inches, corresponding to a pressure of about 6.40 pounds per square inch, or 922 pounds per square foot, an amount of potential energy more than sufficient to account for all the phenomena.

The form and dimensions of the visible funnel did not, therefore, depend upon the diminution of pressure alone, but also upon the temperature and relative humidity of the inrushing winds. Its presence accordingly does not indicate a certain invariable velocity of the wind. When the air is moist, as it always is over the sea, a very small diminution of pressure, and consequently a comparatively light wind, would suffice to develop the phenomenon of a visible funnel. When, on the contrary, the air is very dry, winds of the utmost possible violence could be produced without a visible funnel. The funnel of dark cloud, therefore, by no means indicates the limits of the ascending current. This renders the explanation of the hovering up and down of the lower end of the funnel easy of comprehension. Varying humidity along the path of the tornado would be sufficient to produce this phenomenon.

As the air ascends the pressure diminishes, and the funnel consequently increases in width. The diminution of pressure perpendicularly is symmetrical, and the result is the symmetry of the form of the funnel.

Did the tornado carry up water? Beyond a doubt; but just as it carried up any other body. Water, readily separating into small portions under the action of the wind, would be much more likely to reach the summit of the cloud than particles of solid matter, however fine. It is a common belief, not merely among the many but among men of science, that evaporation takes place rapidly within the vortex of the tornado or water-spout. The fact that the dark funnel is merely a cloud formed by the condensation of the vapor of air, the temperature of which has fallen below the dew-point, is sufficient to show the impossibility of this. Water, therefore, does not add to the power of the tornado. It passes up as a liquid and comes down as a liquid or solid. Even if it were evaporated by the tornado it would require precisely the same amount of heat to evaporate it as it would give forth upon being again condensed.

The sound.

Its loudness was extreme, yet of such a nature as to drown all other sounds without stunning. A man could stand by his house, as it was shivered to pieces, and not hear the noise of its breaking. Many likened it to heavy railroad-trains. To a few it appeared like the hum and whir of innumerable machinery. To others it resembled the roaring of the ocean, along a rocky shore, in a storm. To the soldier it recalled the rolling thunder of the battle-field. Those who were nearest to it were not aware of its terrific loudness.

B. Whitaker heard it, together with others, at the distance of sixty miles. He says that even at that distance it indicated great force. Doubtless it was heard much farther, but excited no attention, being attributed to some other cause. The barometric gradient inclined from Mr. Whitaker to the tornado, consequently the propagation of the sound received no help from the wind. Thunder has very seldom been heard at a greater distance than ten miles. The sound of the tornado was therefore six times louder than the loudest thunder. Heavy cannonading has been heard, it is said, at the distance of ninety miles, and "the report of a volcano at St. Vincent was heard at Demerara, three hundred miles off." The voice of the tornado is, therefore, one of the strongest known to art or nature.

The distances to which bodies were carried.

Leaves fell at Keota and Prairie City which must have been carried four miles. Shutters were carried three miles. A tire of a wagon-wheel was carried two miles. A pig was carried one and one-fourth miles. Doubtless many heavy bodies were carried much farther than any of these instances. Wagons and pigs, &c., disappeared, and the owners could find no trace of them. Only the ruins which were carried the shortest distance were recognized. There is no evidence, however, of anything heavier than leaves and mud having traveled farther than a mile from the vortex. They were carried along with it, it may be, for ten miles. This proves that these bodies either never reached so high as the centrifugal cloud, or, if they did so, were carried again into the vortex before reaching the ground. Hail fell at Sigourney, four miles from the center, containing fragments of grass and leaves, and particles of mud. These, therefore, were carried up into the centrifugal cloud, and were probably scattered over the whole region visited by the rain and hail storm.

Why the hail generally preceded the rain.

A drop of rain of the largest dimensions, falling through air of an average pressure cannot exceed a velocity of 34 feet per second. A hail, however, weighing ½ pound and measuring 4 inches in diameter can acquire a much greater velocity. The area of a circle 4 inches in diameter is 12.566 inches, or say 12½ inches. Before the motion of the hail ceases to be accelerated the air must oppose it with a resistance equal to its weight. A spherical surface experiences theoretically in its passage through the air only half that opposed to a plain surface. The roughness of the hail would considerably increase the retardation; but this would probably be more than counterbalanced by the fact that all of the hail were, more or less, flattened and cake-shaped, thus allowing the hail to assume in falling a position of least resistance. Hence, the air must oppose the hail with a pressure of $\frac{144}{6\frac{1}{4}} = 11.5$ pounds per square foot before its motion ceases to be accelerated. This corresponds to a velocity of forty-eight miles per hour, or 70.4 feet per second. Since the resistance of the air is directly as the density, the velocity possible to be attained would be doubled at the height of three or four miles. We thus perceive that the hail, although perhaps formed at a greater elevation than the rain, can yet, when large, reach the ground before it.

The enormous height from which the hail fell, and the vast thickness of the cloud, does away with the difficulty which many have experienced of conceiving how hail can be sustained a sufficient length of time in the air to allow it to grow to such large proportions.

The light which the tornado throws upon the higher currents of the atmosphere is valuable. At a height of from ten to fifteen miles, there was in Iowa a rapid current to the northeast.

The predominance of winds blowing parallel to the path of the tornado.

The width of the destruction on the right of the center of the storm-path was, we have seen, always greater than that on the left. Another fact of the same significance is that the tornado, when it first commences its destructive career, and when the black funnel hovers over the surface of the ground without touching it, manifests itself as a wind blowing in the line of the storm. The reason is evident. The winds blowing in spirals toward the center had, in addition to a motion along the spirals, a motion as constituent parts of the storm in the direction of its path and at the rate of thirty miles per hour. This increased the velocity of the winds on the right of the center, and diminished that of those on the left of it. The general barometric gradient being inclined from south to north, tended also to increase the velocity of the southerly winds and diminish that of the northerly.

The tornado in Illinois.

The general appearance of the tornado, as a whole, in Illinois, was somewhat different from that which it presented in Iowa. The ascending column of air was no longer on one side of the centrifugal cloud, but apparently near its center. Hence the witnesses generally describe the cloud, as it approached, as consisting of a dark cloud to the northwest, a less dark to the southwest, and a clearer space between. Mr. Roe saw what he conceived to be three streaks of rain, when the tornado was yet miles from him, with clearer spaces between them. My own conception is that the rain fell so densely on both sides of the whirl as to be perfectly black, and the clearer portion, through which some of the witnesses saw the sky, was directly under the whirling clouds, and before the funnel reached to the earth. Mr. Roe, I believe, saw the two descending sheets of rain and the funnel, now reaching to the earth, extending down between them, with clearer intervals on either side. The fact that the cloud now extended on both sides of the funnel, and that the sun was bending toward the western horizon, from which the storm was approaching, rendered accurate observation very difficult. Hence comparatively few persons saw the funnel distinctly. Hence the disagreement of the witnesses as to the direction of revolution. In Iowa all circumstances had combined in order to render precise observation easy. In Illinois the very reverse was the case. I shall, therefore, treat this portion of the subject in a few general remarks.

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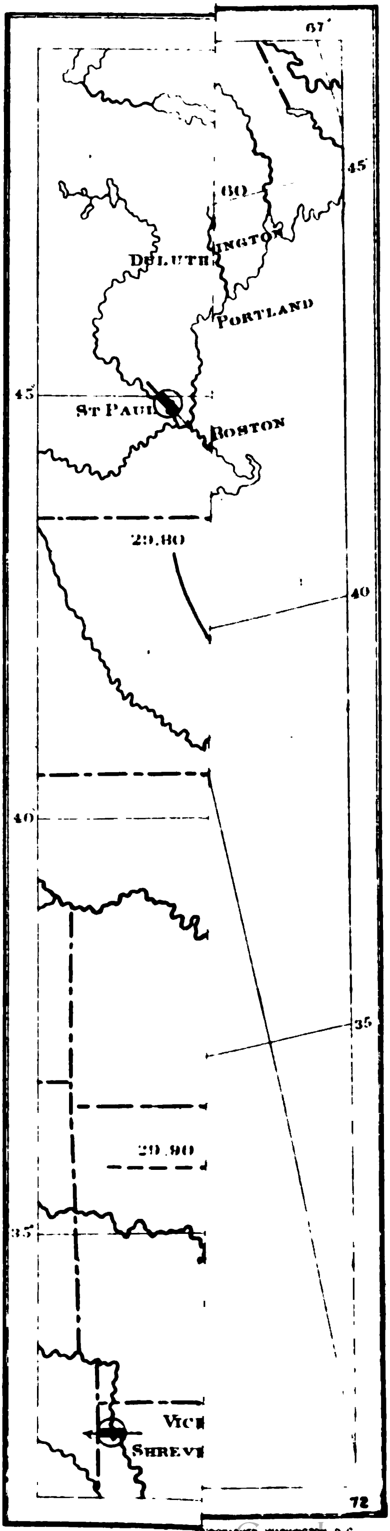

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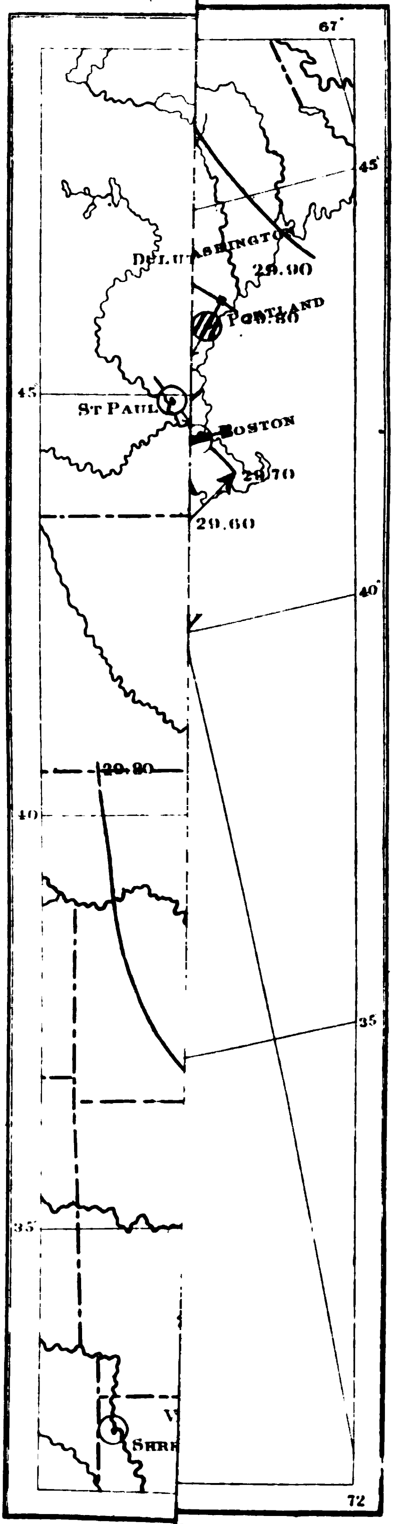

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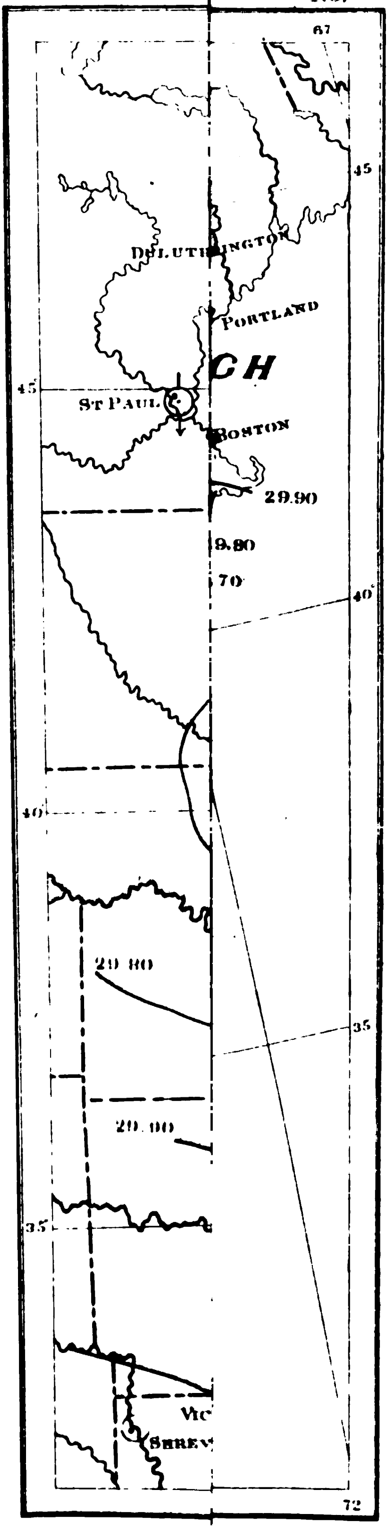

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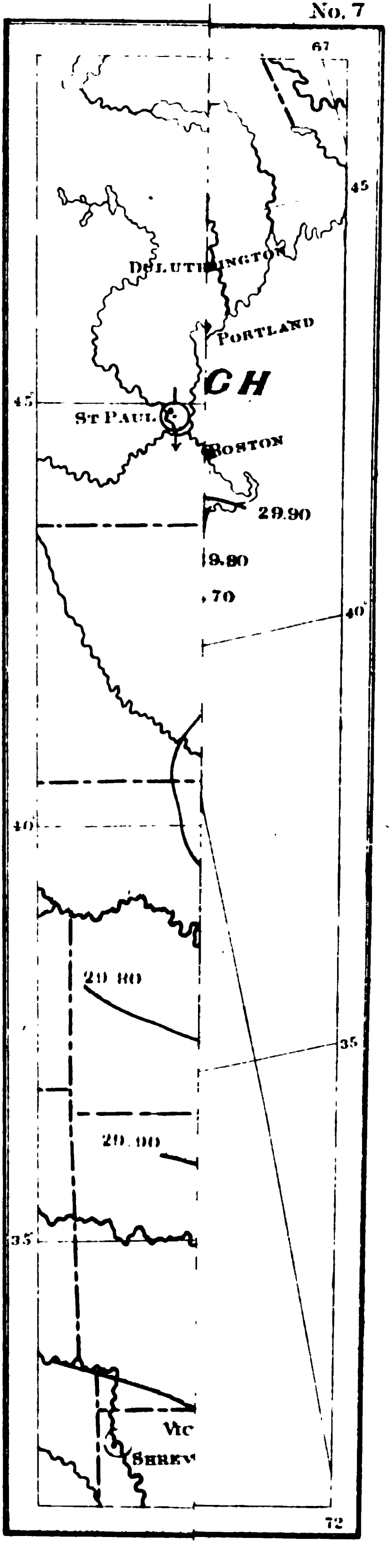

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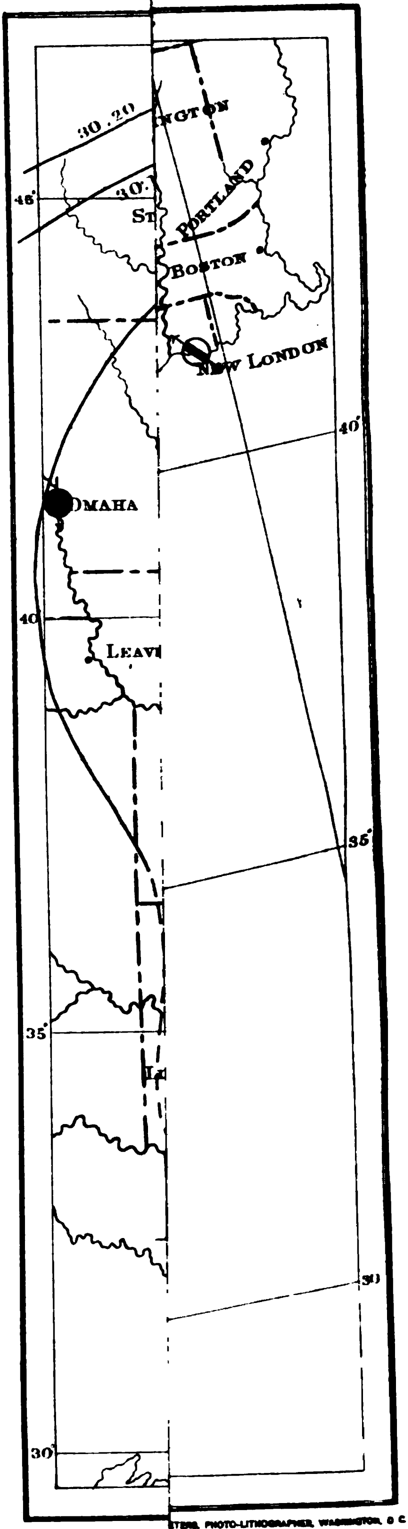

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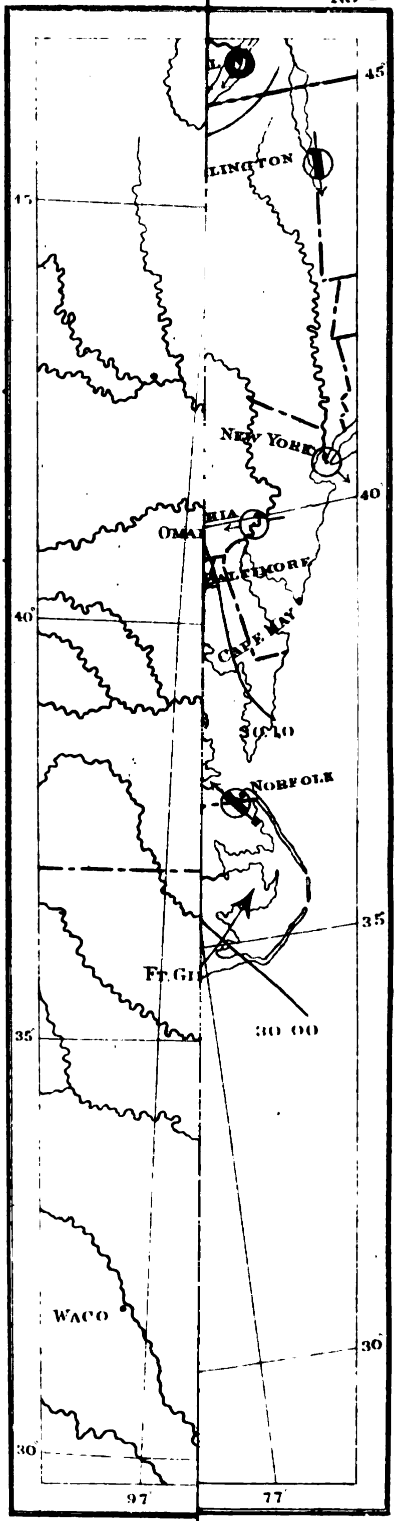

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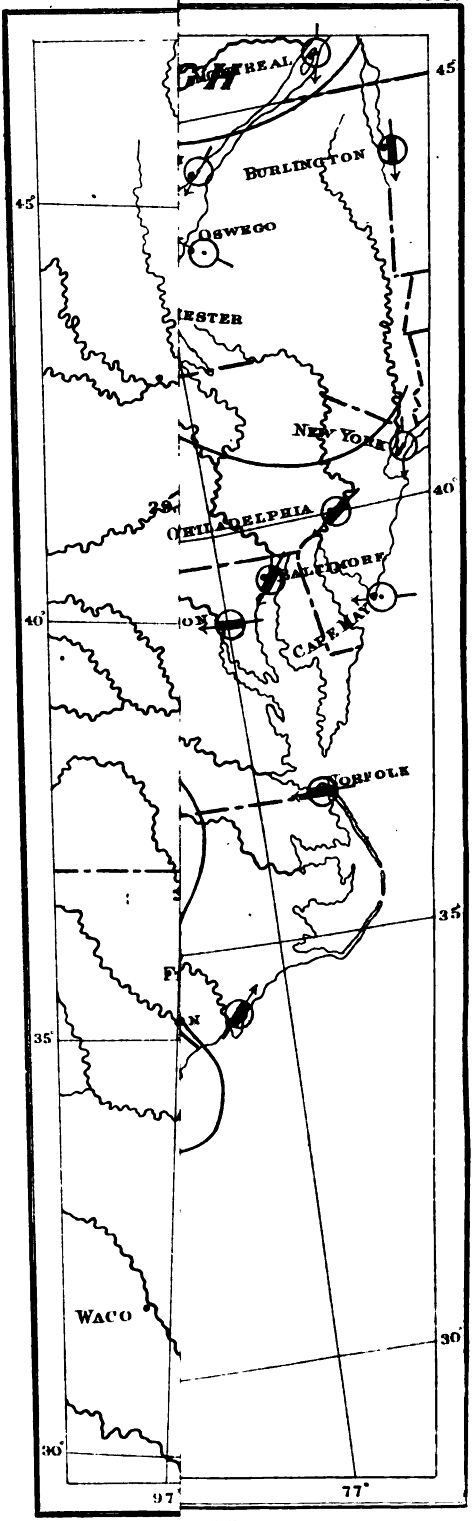

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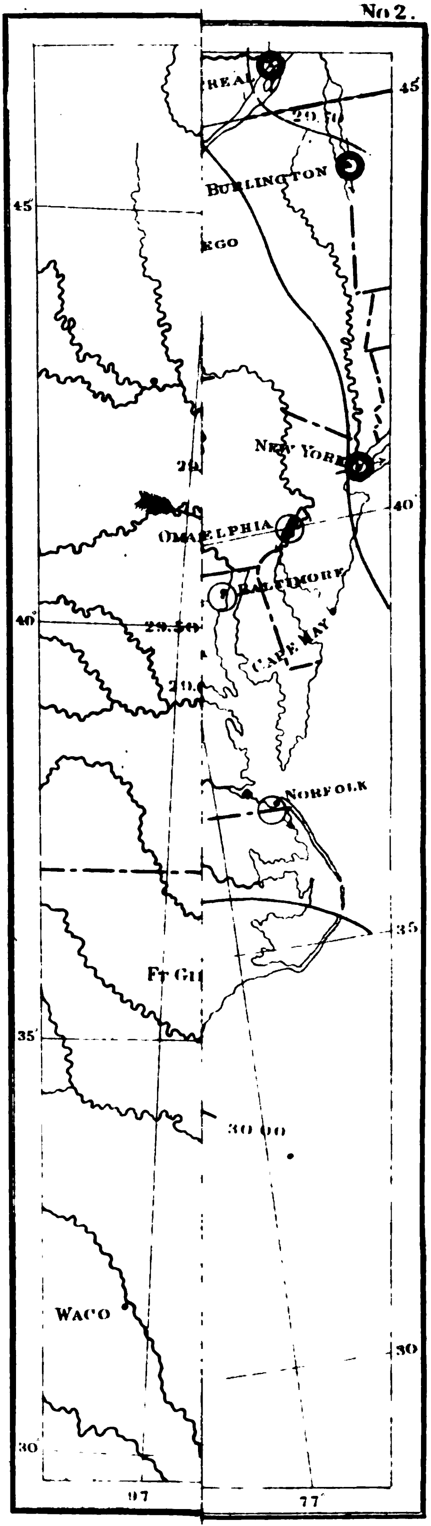

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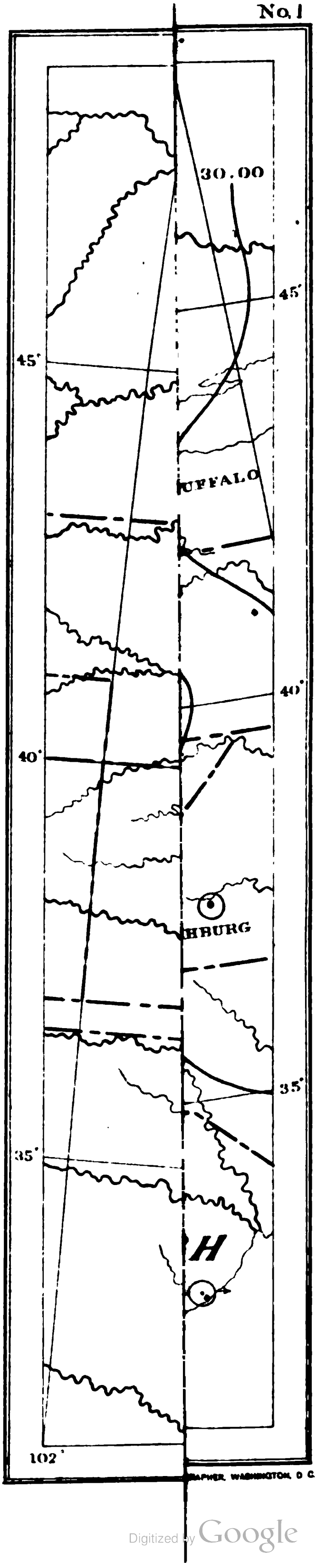
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The tornado developed energy in this State quite as great as that displayed in Iowa.
direction of revolution was the same. The disposition of the ruins was precisely
nilar. It showed the same, and even a greater, partiality for water-courses, turning
ruptly from its course in order to follow them. Its direction varied between north-
st and southeast, and was in the main easterly. At the moment when its velocity
ninished, and before reaching Spoon River, it poured down, close to the whirlwind,
d even on its very path, a perfect cataract of water. The height of the cloud must
ve been very great, for it was seen in the west for hours previous to its advent.
ere was less hail, and the sound was not so generally noticed as in Iowa.

The identity of the tornado in Iowa with that in Illinois.

When lost track of, the Iowa tornado was close upon the Iowa River, and traveling
the southeast. Its general course had, however, been easterly. A very severe rain-
rm passed over the district between its point of disappearance and the Mississippi
ver. Trains were delayed by it and bridges washed away. On the Mississippi itself
ne damage was done to shipping by a violent gust of wind, which accompanied the
n. At Monmouth there was a severe thunder-storm. Twenty miles to the south of
he tornado again struck the ground. It was at Youngstown at 5.45 p. m., or thereby.
om A. McKee's house, north of Washington, Iowa, to Youngstown, is a distance of
out sixty-three miles in a straight line. The tornado was at McKee's house at 3.10
m. The difference between 5.45 and 3.10 is 2.35. The discrepancy due to
ngitude is four minutes, very nearly. The time, therefore, consumed by the storm
traveling from opposite Washington, Iowa, to Youngstown, Ill., was 2 hours 31
nutes, or 2½ hours; 63 ÷ 2½ = 25⅕, which is, therefore, the velocity of the storm, in
les per hour, in a straight line. The length of the journey was materially increased
the crookedness of the path. This brings the velocity nearly up to that with which
e meteor traversed Keokuk and Washington Counties, Iowa. These facts, taken in
nnection, irresistibly lead me to the conclusion that the tornadoes in the two States
e one and the same.

The point where the tornado first struck the ground, on South Skunk River, is situ-
ed in 92° 20′ west longitude and 41° 15′ north latitude. It was finally lost track of
ar Peoria, in 89° 37′ west longitude and 40° 40′ north latitude. The whole motion
the tornado, therefore, was 2° 43′ east and 35′ south, or one hundred and forty-
ree miles east and forty-one miles south. The mean direction of its path was 24°
′ south and 65° 9′ east, and its whole motion one hundred and forty-nine miles. The
ookedness of its path renders its actual motion considerably greater.

My warmest thanks are due to Elias Colbert, of the Chicago Tribune, and the editors
the local newspapers at Washington and Sigourney, Iowa, for assistance rendered,
d especially for publishing an extensive list of questions concerning the tornado,
hich secured for me valuable information from persons residing at a distance.

JAS. MACKINTOSH,
Observer, Signal-Service, U. S. A.

PAPER 31.

THE STORM OF APRIL 14-18, 1873.

(With 9 maps.)

A storm-center that was found to exist in Dakota on the morning of April 13, con-
nued developing itself slowly over Nebraska and Kansas during the afternoon and
ght, with threatening weather and southeasterly winds in the Upper Mississippi and
issouri Valleys. Breckenridge, Minn., reported heavy snow the following morning, with
igh northerly winds. The storm now commenced moving eastward toward the lakes,
here cautionary signals, ordered up on the previous day, heralded its advent.
entral in Iowa on the afternoon of April 14, it appeared to be moving remarkably slow,
hile the pressure was diminishing very rapidly eastward to Lake Erie. After reach-
g Illinois, the midnight reports of April 15 showed that the storm-center had divided
self into a number of small but very distinct areas of barometric depressions, extend-
g eastward to the Alleghanies, with threatening and rainy weather in the Ohio
alley. The several small storm-centers united again during the following day,
ith the exception of one, which moved southeastwardly into the Carolinas. The
rmer storm-center now changed its easterly course to a northeasterly direction,
oving toward the lower lakes, but making very little progress; so much so, that the
enter remained almost stationary in Southern Michigan for sixteen consecutive hours.

The small area that had moved into the Carolinas also changed its direction, and a peared as a well-developed storm on the coast of New Jersey on the afternoon of Ap 17. That area of low barometer which was over Illinois, Southern Michigan, and t Ohio Valley on the 16th, continued over nearly the same portion of country, wi special storm-centers in Indiana and Lake Huron, up to the night of the 17th, when moved northeastwardly to Lake Ontario by the morning of the 18th, where it prevail as a very large area of low pressure over the entire lake region on the afternoon of t 18th. The midnight reports of this date, however, showed the storm to be confined the Saint Lawrence Valley, with rain and snow and brisk westerly winds over t lakes. Moving along the Saint Lawrence, it again united over New Brunswick wi that portion which had been moving along the Atlantic coast, and then disappeared b yond the limits of our stations. During the six days that this storm had been centr in the United States, its frequent changes of direction, its dividing and reunitin have made it, in many respects, one of the most remarkable storms traced by the sign service since its organization. Lake-navigation being still closed, no disasters occurr to shipping, yet its severity was felt in most lake ports, which had, however, been du warned of its approach.

PAPER 32.

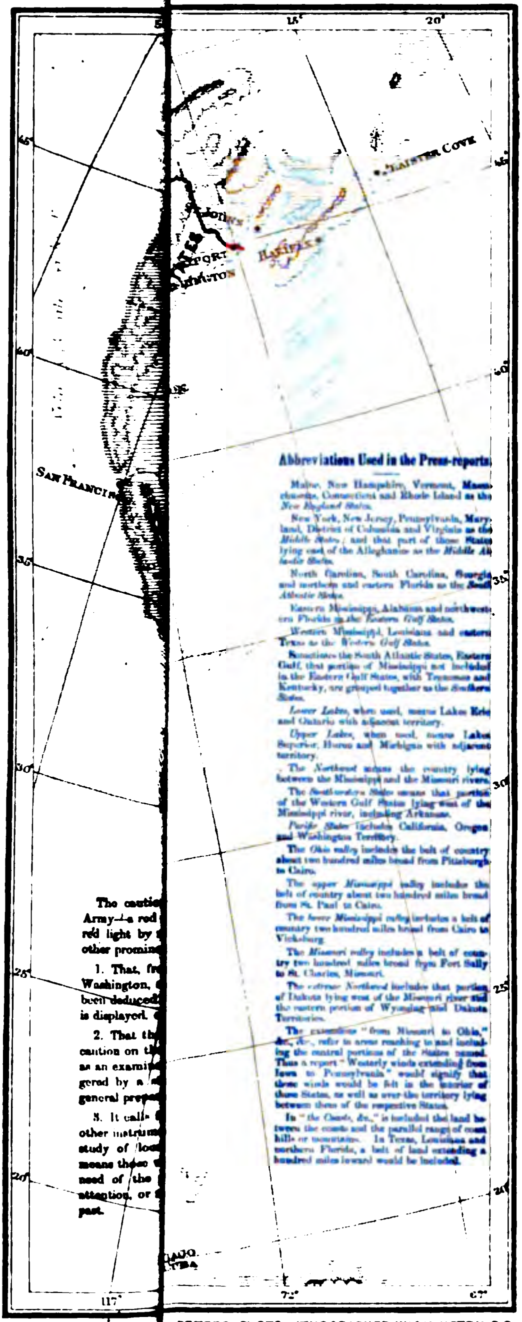
CHRONOLOGICAL LIST OF AURORAS OBSERVED AT THE RESPECTIVE SI NAL-SERVICE STATIONS FROM NOVEMBER 11, 1870, TO JULY 31, 1873, I CLUSIVE.

NOTE.—The dates are those of the evening of the night of the aurora, or of t nearest 11 p. m. observation, or according to astronomical reckoning.

? placed *before* the name of a station indicates that the observed light may possib not have been an aurora.

? placed *after* the name of a station indicates that the date is doubtful, and may 1 day in error.

1870.				
Nov.	11. New York.			
	17. Chicago.			
	18. Chicago.			
	19. Chicago.	Rochester.		
Dec.	1. Milwaukee.			
	17. Washington.			
1871.				
Jan.	13. Oswego.	Mt. Washington.		
	19. Du Luth.	Mt. Washington.		
	31. New Orleans.			
Feb.	7. Mt. Washington.			
	9. Du Luth.			
	10. Du Luth.	St. Paul.		
	11. Boston.	Du Luth.	Mt. Washington.	
	12. Detroit.	Du Luth.	Omaha.	St. Paul.
	Toledo.			
	13. Du Luth.	St. Paul.	Mt. Washington.	
	14. Boston.			
	15. Du Luth.			
	21. Mt. Washington.	Rochester.		
	24. Buffalo.	Chicago.	Detroit.	Du Luth.
	Rochester.			
	25. Chicago.			
	26. Chicago.			
Mar.	10. Mt. Washington.			
	17. Buffalo.	Cheyenne.	Chicago.	Detroit.
	Du Luth.	Cleveland.	Indianapolis.	Toledo.
	18. Chicago.			
	24. Chicago.	Oswego.		
	26. Du Luth.			
	27. Du Luth.			
	31. Oswego.			
Apr.	1. Chicago.	Cleveland.	Detroit.	



Abbreviations Used in the Press-reports.

Maine, New Hampshire, Vermont, Massachusetts, Connecticut and Rhode Island as the *New England States.*

New York, New Jersey, Pennsylvania, Maryland, District of Columbia and Virginia as the *Middle States*; and that part of those States lying east of the Alleghanies as the *Middle Atlantic States.*

North Carolina, South Carolina, Georgia and northern and eastern Florida as the *South Atlantic States.*

Eastern Mississippi, Alabama and northwestern Florida as the *Eastern Gulf States.*

Western Mississippi, Louisiana and eastern Texas as the *Western Gulf States.*

Sometimes the South Atlantic States, Eastern Gulf, that portion of Mississippi not included in the Eastern Gulf States, with Tennessee and Kentucky, are grouped together as the *Southern States.*

Lower Lakes, when used, means Lakes Erie and Ontario with adjacent territory.

Upper Lakes, when used, means Lakes Superior, Huron and Michigan with adjacent territory.

The *Northwest* means the country lying between the Mississippi and the Missouri rivers.

The *Southwestern States* means that portion of the Western Gulf States lying west of the Mississippi river, including Arkansas.

Pacific States includes California, Oregon and Washington Territory.

The *Ohio valley* includes the belt of country about two hundred miles broad from Pittsburgh to Cairo.

The upper *Mississippi valley* includes the belt of country about two hundred miles broad from St. Paul to Cairo.

The lower *Mississippi valley* includes a belt of country two hundred miles broad from Cairo to Vicksburg.

The *Missouri valley* includes a belt of country two hundred miles broad from Fort Sully to St. Charles, Missouri.

The extreme *Northwest* includes that portion of Dakota lying west of the Missouri river and the eastern portion of Wyoming and Dakota Territories.

The expressions "from Missouri to Ohio," &c., &c., refer to areas reaching to and including the central portions of the States named. Thus a report "Westerly winds extending from Iowa to Pennsylvania" would signify that these winds would be felt in the interior of those States, as well as over the territory lying between them of the respective States.

In "the Coasts, &c.," is included the land between the coasts and the parallel range of coast hills or mountains. In Texas, Louisiana and northern Florida, a belt of land extending a hundred miles inward would be included.

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9. Chicago.	Cleveland.	Detroit.	Du Luth.
Indianapolis.	Oswego.	Rochester.	Toledo.
Wilmington.			
13. Boston.	Buffalo.	Chicago.	Cleveland.
Detroit.	Du Luth.	Indianapolis.	New London.
Oswego.	Portland, Me.	Rochester.	St. Paul.
14. Detroit.	Oswego.	Portland, Me.	
16. Buffalo.			
17. Boston.	Baltimore.	Buffalo.	Memphis.
Omaha.	Oswego.	Rochester.	
20. Rochester.			
23. Boston.	Mt. Washington.	New London.	Oswego.
Rochester.	Toledo.		
28. Oswego.	Rochester.		
8. Boston.	Chicago.	Cleveland.	Du Luth.
Milwaukee.	New London.	St. Paul.	
9. New London.	St. Paul.		
10. Boston.	Buffalo.	Marquette.	New London.
Oswego.	St. Paul.		
12. Boston.	Buffalo.	Mt. Washington.	
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16. Du Luth.			
17. San Francisco.			
19. Chicago.			
20. Oswego.			
21. Oswego.	Portland, Me.		
22. Buffalo.	Chicago.	Cleveland.	Detroit.
Marquette.	Toledo.		
23. Rochester.	Toledo.		
24. Burlington.			
25. Mt. Washington.			
26. Boston.	Du Luth.	Mt. Washington.	
27. Oswego.			
1. Marquette.			
2. Marquette.			
3. Davenport.			
6. Chicago.	Du Luth.	Grand Haven.	Milwaukee.
7. Chicago.	Detroit.	Du Luth.	Grand Haven.
8. Rochester.			
9. Rochester.			
10. Boston.	Cape May.	Chicago.	Cheyenne.
Detroit.	Du Luth.	Grand Haven.	Marquette.
Milwaukee.	New York.	Oswego.	St. Paul.
11. Davenport.	Detroit.		
12. Boston.			
14. Boston.	Mt. Washington.		
17. Davenport.	Du Luth.	Indianapolis.	Leavenworth.
Marquette.	Mt. Washington.	St. Louis.	St. Paul.
18. Cleveland.	Du Luth.	Indianapolis.	Toledo.
Washington.	Wilmington.		
20. Grand Haven.	Oswego.		
21. Boston.	Burlington.	Du Luth.	Portland, Me.
23. Boston.	Burlington.	Du Luth.	Marquette.
25. Burlington.	Du Luth.	Marquette.	Oswego.
30. Davenport.			
2. Du Luth.	Grand Haven.		
4. Milwaukee.	Toledo.		
5. Portland, Me.			
6. Detroit.			
11. St. John's.			
12. Boston.	Marquette.		
13. Davenport.			
14. Boston.	Burlington.	Chicago.	Davenport.
Detroit.	Du Luth.	Escanaba.	Grand Haven.
Indianapolis.	Marquette.	Mt. Washington.	Oswego.
St. Paul.			
15. Chicago.	Toledo.		
20. Davenport.	Du Luth.	Grand Haven.	Marquette.
New York.			

July	21.	Boston.	Chicago.	Cleveland.	Davenport
		Detroit.	Grand Haven.	Marquette.	Rochester.
		St. Paul.			
	22.	Boston.	Buffalo.	Chicago.	Grand Haven.
		Du Luth.	Marquette.	Rochester.	
	23.	Boston.	Burlington.	Du Luth.	Oswego.
	24.	Mt. Washington.			
	25.	Fiskenaes.			
	27.	Chicago.			
	28.	Buffalo.	Davenport.	Detroit.	Rochester.
	30.	Oswego.			
	31.	Chicago.			
Aug.	5.	Burlington.	Davenport.	Du Luth.	Grand Haven.
		Milwaukee.	Toledo.		
	9.	Boston.	Burlington.	Du Luth.	Montreal.
	10.	Burlington.	Du Luth.	Oswego.	
	11.	Chicago.	Du Luth.	Marquette.	
	12.	Buffalo.	Chicago.	Du Luth.	Grand Haven.
		Oswego.	Rochester.		
	16.	Buffalo.	Chicago.	Cleveland.	Du Luth.
		Oswego.			
	17.	Buffalo.	Davenport.	Detroit.	Du Luth.
		Grand Haven.	Oswego.	Rochester.	
	20.	Du Luth.			
	21.	Chicago.			
	22.	Grand Haven.			
	23.	Chicago.	Marquette.	St. Paul.	
	24.	Burlington.	Chicago.	Du Luth.	Grand Haven.
		Milwaukee.	St. Paul.		
	25.	Marquette.	Montreal.		
	30.	Davenport.			
Sept.	4.	Chicago.			
	5.	Chicago.			
	6.	Du Luth.	St. Paul.		
	7.	Boston.	Burlington.	Cleveland.	Milwaukee.
		Oswego.	Rochester.	Portland, Me.	St. Paul.
		Toledo.			
	8.	Burlington.	Buffalo.	Mt. Washington.	Milwaukee.
		Oswego.			
	11.	Du Luth.			
	14.	Toledo.			
	18.	Cleveland.			
	19.	Milwaukee.	St. Paul.		
	20.	Du Luth.			
	22.	Du Luth.			
	26.	Cleveland.			
	27.	Cleveland.			
Oct.	16.	Toledo.			
	18.	Marquette.			
	24.	Mt. Washington.			
Nov.	1.	Cape May.			
	2.	Buffalo.	Grand Haven.	Portland, Me.	
	4.	Portland, Me.			
	9.	Boston.	Buffalo.	Cape May.	Charleston.
		Cheyenne.	Corinne.	Indianapolis.	Knoxville.
		Louisville.	Montreal.	New London.	New York.
		Oswego.	Portland, Me.	Rochester.	Vicksburgh.
	10.	Du Luth.	Grand Haven.	Indianapolis.	Knoxville.
		Milwaukee.	Toledo.	Washington.	Wilmington.
	11.	Baltimore.	Indianapolis.		
	12.	Mt. Washington.	Oswego.		
	13.	Du Luth.			
	16.	Escanaba.			
	19.	Oswego.	Savannah.		
Dec.	8.	Chicago.	Milwaukee.		
	10.	Du Luth.	Toledo.		
	16.	Chicago.	Du Luth.	Marquette.	
	19.	Rochester.			
	24.	Buffalo.			

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. 6.	Boston.	Cleveland.	Du Luth.	Grand Haven
	Milwaukee.	New York.	Portland, Me.	Toledo.
7.	Buffalo.			
12.	Toledo.			
13.	Du Luth.			
30.	Marquette.			
31.	Chicago.	Mt. Washington.	Oswego.	
. 4.	Boston.	(Baltimore ?)	Cape May.	Charleston.
	Chicago.	Du Luth.	Galveston.	Jacksonville.
	Key West.	Knoxville.	Lake City.	Lynchburgh.
	Marquette.	Mobile.	Milwaukee.	Nashville.
	New York.	Philadelphia.	Portland, Me.	St. Paul.
	(Thank God Harbor, Greenland.)	Virginia City.	Washington.	Wilmington.
5.	Lake City.	Mt. Washington.		
9.	Oswego.			
12.	Lake City.			
15.	Marquette.			
18.	Lake City.			
19.	Chicago.	Oswego.		
26.	Marquette.	Portland, Me.		
27.	Chicago.	Oswego.	Rochester.	
28.	Lake City.			
29.	Lake City.			
rch 1.	Buffalo.	Burlington.	Chicago.	Cleveland.
	Detroit.	Du Luth.	Escanaba.	Grand Haven.
	Marquette.	Oswego.	Portland, Me.	Toledo.
	Vicksburgh.			
6.	Toledo.			
14.	Wilmington.			
26.	Oswego.			
28.	Du Luth.	Marquette.		
29.	Portland, Me.			
31.	(Lake City ?)			
ril 3.	Buffalo.	Chicago.	Marquette.	Oswego.
	Rochester.	Toledo.	(Wilmington ?)	
4	Toledo.			
6.	Nashville.			
9.	(Philadelphia ?)			
10.	Buffalo.	Breckenridge.	Cape May.	Chicago.
	Cleveland.	Davenport.	Detroit.	Grand Haven.
	Indianapolis.	Leavenworth.	Knoxville.	Marquette.
	New York.	Oswego.	Philadelphia.	Portland, Me.
	Toledo.	Washington.	Wilmington.	
11.	Baltimore.	Oswego.	Portland, Me.	
14.	Buffalo.	Oswego.	Rochester.	
15.	Chicago.	Marquette.	Toledo.	
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7.	Portland, Me.			
9.	Chicago.	Oswego.	Rochester.	Toledo.
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24.	Chicago.	Du Luth.	Milwaukee.	Marquette.
	Oswego.			
25.	Oswego.	Rochester.		
26.	New York.	Rochester.		
27.	Detroit.	Marquette.	Nashville.	
28.	Marquette.	Nashville.	Oswego.	Rochester.
ne 1.	Rochester.			
2.	Du Luth.	Rochester.		
5.	(Rochester ?)			
6.	(Du Luth ?)			

June	9.	St. Paul.			
	10.	Chicago.	Du Luth.	Indianapolis.	Toledo.
	11.	Chicago.	Portland, Oreg.	St. Paul.	
	12.	Oswego.			
	13.	Chicago.			
	15.	Marquette.	Oswego.		
	28.	(Rochester ?)			
July	3.	Chicago.			
	6.	Nashville.			
	7.	Chicago.	Indianapolis.	Oswego.	Portland, Oreg.
	8.	Boston.	Burlington.	Breckenridge.	Chicago.
		Davenport.	Detroit.	Du Luth.	Indianapolis.
		Louisville.	Marquette.	New York.	Oswego.
		Philadelphia.	Rochester.	Toledo.	
	10.	Chicago.	St. Paul.		
	18.	Chicago.			
	20.	Du Luth.			
	24.	Cleveland.			
	25.	Cleveland.			
	27.	Boston.	Buffalo.	Chicago.	Cleveland.
		Du Luth.	Oswego.	Toledo.	
	28.	Buffalo.	Cleveland.		
Aug.	2.	Davenport.			
	3.	Baltimore.	Buffalo.	Chicago.	Cincinnati.
		Cleveland.	Davenport.	Detroit.	Grand Haven.
		Indianapolis.	Knoxville.	Louisville.	Marquette.
		Milwaukee.	Nashville.	New York.	Norfolk.
		Oswego.	Philadelphia.	Pittsburgh.	Rochester.
		Washington.	Wilmington.		
	4.	Toledo.	Boston.	Breckenridge.	Buffalo.
		Baltimore.	Cleveland.	Detroit.	Ft. Sully.
		Burlington.	Rochester.	St. Paul.	
	5.	(Cleveland ?)	Davenport.	Marquette.	St. Paul.
		Oswego.			
	7.	Augusta.			
	8.	Augusta.	Baltimore.	Boston.	Buffalo.
	8.	Burlington.	Cape May.	Chicago.	Cincinnati.
		Cleveland.	Corinne.	Cheyenne.	Davenport.
		Detroit.	Grand Haven.	Indianapolis.	Knoxville.
		Leavenworth.	Louisville.	Milwaukee.	Memphis.
		Mt. Washington.	Nashville.	New London.	Norfolk.
		New York.	Omaha.	Oswego.	Pittsburgh.
		Philadelphia.	Portland, Me.	Rochester.	Toledo.
		Washington.	Wilmington.		
	9.	Augusta.	Cleveland.	St. Louis.	
	10.	Omaha.	Virginia City.		
	13.	(Burlington ?)			
	14.	Buffalo.	Breckenridge.	Cairo.	Chicago.
		Cleveland.	Corinne.	Davenport.	Denver.
		Detroit.	Du Luth.	Ft. Sully.	Grand Haven.
		Indianapolis.	Leavenworth.	Milwaukee.	Marquette.
		New London.	Norfolk.	Oswego.	Pittsburgh.
		Rochester.	St. Louis.	St. Paul.	Toledo.
		Washington.	Wilmington.		
	18.	New York.			
	21.	Rochester.			
	24.	Ft. Sulley.	St. Paul.		
	25.	Boston.	Buffalo.	Cape May.	Cleveland.
		Detroit.	Du Luth.	Grand Haven.	Norfolk.
		Rochester.	Toledo.		
	26.	Du Luth.	Marquette.		
	29.	Breckenridge.	Cleveland.	Detroit.	Du Luth.
		Escanaba.	Ft. Sully.	Marquette.	St. Paul.
		Toledo.			
Sept.	2.	Toledo.			
	4.	Breckenridge.	Chicago.	Ft. Sully.	Marquette.
		St. Paul.	Washington.		
	5.	Mt. Washington.			
	6.	Marquette.	Rochester.		
	7.	Breckenridge.	Du Luth.	Ft. Sully.	Rochester.

pt.	8.	Breckenridge.	Ft. Sully.		
	9.	Boston.	Portland, Me.	Rochester.	
	14.	Breckenridge.	Cincinnati.		
	16.	Breckenridge.			
	17.	Alpena.	Buffalo.	St. Paul.	
	18.	Cleveland.			
	28.	Breckenridge.	Boston.	Ft. Sully.	Philadelphia.
		Rochester.			
	29.	Breckenridge.	Du Luth.	Rochester.	
	30.	Breckenridge.	Du Luth.	Marquette.	
t.	1.	Buffalo.	Davenport.	Detroit.	Du Luth.
		St. Paul's Island.			
	2.	Ft. Sully.	Portland, Me.		
	3.	Alpena.	Du Luth.	Escanaba.	Marquette.
		Milwaukee.	Rochester.	St. Paul's Island.	
	4.	St. Paul's Island.			
	5.	Alpena.	Breckenridge.	Burlington.	Du Luth.
		Ft. Sully.	Oswego.	Rochester.	St. Paul.
		Toledo.			
	6.	Marquette.	St. Paul.		
	8.	Cairo.			
	9.	Cairo.	St. Paul's Island.		
	12.	Mt. Washington.	New York.		
	13.	Knoxville.			
	14.	Augusta.	Baltimore.	Boston.	Cape May.
		Charleston.	Chicago.	Corinne.	Davenport.
		Denver.	Detroit.	Ft. Sully.	Indianapolis.
		Jacksonville.	Lake City.	Montgomery.	Nashville.
		Norfolk.	Philadelphia.	Portland, Me.	Rochester.
		Savannah.	Toledo.	Washington.	Wilmington.
	15.	Escanaba.	La Crosse.	St. Paul.	St. Paul's Island.
	16.	Portland, Me.	Rochester.	St. Paul.	Wilmington.
	17.	Breckenridge.	Cheyenne.	Chicago.	Ft. Benton.
		La Crosse.	St. Paul.	Toledo.	
	18.	Chicago.			
	25.	La Crosse.			
	28.	Alpena	Burlington.	Detroit.	Escanaba.
		Marquette.	Milwaukee.	Mt. Washington.	Oswego.
		Portland, Me.	Rochester.		
	29.	Alpena.	Boston.	Davenport.	Escanaba.
		Geneva.	Marquette	Mt. Washington.	Portland, Me.
		Toledo.	Washington.		
	30.	Alpena.	Ft. Sully.	Geneva, N. Y.	
ov.	1.	Baltimore.	Boston.	Geneva, N. Y.	Philadelphia.
	4.	St. Paul's Island.			
	6.	Alpena.	Breckenridge.	Escanaba.	Pembina.
	8.	New York.			
	10.	Baltimore.	Boston.	Breckenridge.	Burlington.
		Davenport.	Ft. Benton.	La Crosse.	Leavenworth.
		Pembina.	Portland, Me.	Washington.	
	17.	St. Paul's Island.			
	20.	Washington.			
	23.	Fort Benton.	La Crosse.	St. Paul's Island.	
	24.	Fort Sully.	La Crosse.	St. Paul's Island.	
	25.	Alpena.			
	26.	Breckenridge.	Pembina.	St. Paul's Island.	
	27.	Alpena.	Burlington.	Pembina.	Portland, Me.
		St. Paul's Island.			
	28.	Rochester.			
	29.	Jacksonville.	Pembina.		
	30.	St. Paul's Island.			
ec.	1	Pembina.	St. Paul's Island.		
	2.	St. Paul's Island.			
	3.	La Crosse.			
	10.	(St. Paul's Island ?)			
	17.	Alpena.			
	20.	Pembina.			
	21.	Pembina.			
	22.	Pembina.			

Dec.	23.	Alpena.	Breckenridge.	Buffalo.
		Pembina.		
	24.	St. Paul's Island.		
	25.	Breckenridge.	Pembina.	St. Paul'
	26.	Pembina.	St. Paul's Island.	
	27.	Du Luth.	La Crosse.	Marquett
	29.	Alpena.	Portland, Me.	
	30.	Pembina.	St. Paul's Island.	
	31.	Alpena.	Burlington.	Du Luth.
		Portland, Me.		
1873.				
Jan.	3.	Breckenridge.	Mt. Washington.	
	5.	Du Luth.	Ft. Sully.	(Washing
	6.	Ft. Sully.		
	7.	Boston.	Burlington.	Cape Ma
		Ft. Sully.	Geneva.	Knoxvill
		Mt. Washington.	New Haven.	New Lon
		Philadelphia.	Portland, Me.	Rocheste
	8.	Burlington.		
	9.	(Milwaukee ?)	(Vicksburgh ?)	
	12.	St. Paul's Island.		
	18.	Alpena.	Breckenridge.	Escanaba
		Marquette.	Milwaukee.	St. Paul's
	19.	(Ft. Benton ?)		
	20.	(Ft. Sully ?)	St. Paul's Island.	
	21.	Pembina.		
	23.	St. Paul's Island.		
	24.	Vicksburgh.		
	25.	Alpena.	Milwaukee.	
	26.	Du Luth.	St. Paul's Island.	
	27.	St. Paul's Island.		
	28.	Alpena.	Breckenridge.	Du Luth.
		Marquette.		
	29.	Ft. Sully.		
Feb.	1.	Alpena.	Breckenridge.	Buffalo.
		Du Luth.	Escanaba.	Ft. Sully.
		Marquette.	Milwaukee.	Mt. Wash
	2.	Alpena.	Boston.	Buffalo.
		Mt. Washington.	New Haven.	
	5.	Ft. Sully.		
	16.	Alpena.		
	19.	Alpena.	Escanaba.	
	20.	Breckenridge.	Buffalo.	Du Luth.
		Pembina.	St. Paul's Island.	
	21.	Alpena.	Breckenridge.	Buffalo.
		Escanaba.	Ft. Sully.	Geneva.
		Milwaukee.	New Haven.	Pembina.
		St. Paul.		
	22.	Alpena.	La Crosse.	New Hav
		St. Paul's Island.		
	23.	Alpena.	Breckenridge.	Du Luth.
		La Crosse.	Milwaukee.	Pembina.
	24.	Ft. Sully.	Pembina.	
	25.	New Haven.		
	26.	Boston.	Burlington.	St. Paul's
Mar.	1.	Boston.	Burlington.	Ft. Bento
	2.	Du Luth.	Ft. Sully.	La Cross
		St. Paul.		
	3.	Alpena.	Du Luth.	Marquett
	6.	Portland, Me.		
	8.	Breckenridge.	Grand Haven.	Pembina.
	9.	Alpena.	Burlington.	Mt. Wash
		New Haven.	Omaha.	
	10.	Boston.	Burlington.	Mt. Wash
	13.	New Haven.		
	16.	Alpena.	Buffalo.	
	18.	Ft. Sully.	St. Paul's Island.	
	20.	(Omaha ?)		
	21.	Alpena.	Du Luth.	Ft. Sully.
		Marquette.	Milwaukee.	Wood's H

ar.	22.	Alpena.	Breckenridge.	Buffalo.	Du Luth.
		Ft. Sully.	Geneva.	La Crosse.	Oswego.
		Pembina.	Rochester.	Washington.	Wood's Hole.
	23.	Alpena.	Boston.	Buffalo.	Marquette.
		(Omaha?)	Pembina.	St. Paul's Island.	
	24.	New Haven.	Pembina.		
	25.	La Crosse.	Marquette.	Pembina.	
	26.	Alpena.	Escanaba.	Marquette.	
	27.	Alpena.			
	29.	Alpena.	Ft. Sully.	La Crosse.	
pr.	1.	Boston.	(Breckenridge?)	Ft. Sully.	Mt. Washington.
		(New Haven?)	Portland, Me.	Rochester.	
	2.	Pembina.			
	3.	Geneva.	Oswego.	Rochester.	
	4.	New Haven.			
	5.	Omaha.			
	7.	Pembina.			
	15.	Alpena.	New Haven.		
	18.	(Breckenridge?)	Du Luth.	Escanaba.	Ft. Sully.
		La Crosse.	Pembina.	St. Paul.	
	19.	Alpena.	Boston.	Du Luth.	Escanaba.
		Ft. Benton.	Ft. Sully.	St. Paul.	
	20.	Alpena.	Boston.	Du Luth.	Escanaba.
		Ft. Benton.	La Crosse.	New Haven.	Pembina.
		St. Paul.			
	21.	Alpena.	Escanaba.	La Crosse.	New Haven.
		Pembina.	St. Paul.		
	22.	St. Paul.			
	23.	Boston.	Pembina.	St. Paul's Island.	
	24.	Buffalo.	New Haven.		
	25.	Alpena.	Breckenridge.	Fort Sully.	Geneva.
		Marquette.	Pembina.	Rochester.	
	26.	Alpena.	Fort Sully.	Marquette.	Pembina.
	27.	Alpena.	Fort Benton.	Marquette.	St. Paul's Island.
	28.	Alpena.	La Crosse.	Pembina.	
	29.	Fort Benton.	Marquette.	Pembina.	
	30.	Alpena.	Du Luth.	Eastport.	Marquette.
		Mt. Washington.	Pembina.	Washington.	
May	2.	Buffalo.			
	7.	Mt. Washington.			
	13.	Alpena.			
	15.	Alpena.	Boston.	Cape May.	Davenport.
		Fort Benton.	Grand Haven.	La Crosse.	Marquette.
		Mt. Washington.	New Haven.	Portland, Me.	Toledo.
		Washington.	Yankton.		
	16.	Alpena.	Boston.	Fort Benton.	Marquette.
		Pembina.			
	17.	Alpena.	Eastport.	(? Rochester.)	
	18.	Alpena.			
	19.	Mt. Washington.	New Haven.		
	21.	La Crosse.	St. Paul.		
	22.	Geneva.	La Crosse.	St. Paul.	
	23.	Buffalo.	Cleveland.	Du Luth.	La Crosse.
		Rochester.	Toledo.		
	25.	Eastport.			
	26.	La Crosse.			
	27.	Alpena.			
	28.	Alpena.	Buffalo.	Cleveland.	Geneva.
		La Crosse.	Memphis.	Milwaukee.	New Haven.
		(Oswego?)	Pembina.	Toledo.	
	29.	Alpena.	Du Luth.	La Crosse.	Marquette.
		Pembina.			
	30.	(New Haven?)	St. Paul.		
	31.	Alpena.	Mt. Washington, Station 1.	Mt. Washington, Station 2.	Mt. Washington, Station 3.
June	1.	Alpena.	Boston.	Buffalo.	Chicago.
		Detroit.	Erie.	Ft. Sully.	(? Galveston.)
		Milwaukee.	Mt. Washington, Station 1.	Mt. Washington, Station 2.	Mt. Washington, Station 3.

June	1.	Mt. Washington, Station 4.	New Haven.	New London.	Oswego.
		Rochester.	Toledo.	Washington.	
	2.	Ft. Benton.	(? Galveston.)	Mt. Washington, Station 1.	Mt. Washingto Station 2.
		Pembina.			
	3.	(? Galveston.)	St. Paul.		
	4.	(? Galveston.)			
	5.	(? Galveston.)			
	6.	Galveston.			
	7.	Buffalo.	Mt. Washington, Station 2.		
	12.	Alpena.	Mt. Washington, Station 3.	New Haven.	
	13.	La Crosse.	Mt. Washington, Station 1.	Mt. Washington, Station 2.	St. Paul.
	14.	Alpena.	Escanaba.	Ft. Benton.	Grand Haven.
		Marquette.	Mt. Washington, Station 2.		
	15.	Du Luth.	La Crosse.	Marquette.	Mt. Washingto Station 3.
		Oswego.	St. Paul.		
	16.	Breckenridge.	Du Luth.	Ft. Sully.	Marquette.
		Milwaukee.	Mt. Washington, Station 3.		
	17.	Mt. Washington, Station 1.	Mt. Washington, Station 2.	Mt. Washington, Station 3.	
	18.	Alpena.	Boston.	Buffalo.	Chicago.
		(Erie ?)	Ft. Sully.	Grand Haven.	La Crosse.
		Milwaukee.	Morgantown.	Rochester.	St. Paul.
		Toledo.	Washington.		
	19.	Mt. Washington, Station 3.			
	20.	Alpena.	Du Luth.	Marquette.	Mt. Washingto Station 2.
		Mt. Washington, Station 4.	Washington.		
	22.	Boston.	Mt. Washington, Station 1.	Mt. Washington, Station 2.	
	23.	Burlington.	Mt. Washington, Station 1.	Mt. Washington, Station 2.	Mt. Washingto Station 3.
		Pembina.	Portland, Me.		
	24.	Boston.	Mt. Washington, Station 1.	Mt. Washington, Station 2.	Mt. Washingto Station 3.
		New Haven.	Oswego.	Portland, Me.	St. Paul.
	25.	Breckenridge.	Erie.	Mt. Washington, Station 1.	Mt. Washingto Station 2.
		Mt. Washington, Station 3.	St. Paul.		
	26.	Alpena.	Baltimore.	Boston.	Buffalo.
		Burlington.	Cape May.	Chicago.	Cleveland.
		Detroit.	Escanaba.	Grand Haven.	La Crosse.
		Marquette.	Milwaukee.	Morgantown.	Mt. Washingto Station 1.
		Mt. Washington, Station 2.	Mt. Washington, Station 3.	Mt. Washington, Station 4.	New Haven.
		New London.	Oswego.	Pembina.	Portland, Me.
		Rochester.	St. Paul.	Washington.	Wood's Hole.
		Yankton.			
	27.	Alpena.	Boston.	Du Luth.	Escanaba.
		Marquette.	Milwaukee.	Mt. Washington, Station 2.	New Haven.
		New York.	St. Paul.		
	28.	Alpena.	Mt. Washington, Station 1.	Mt. Washington, Station 2.	Pembina.
	29.	Boston.	Breckenridge.	Mt. Washington, Station 2.	Omaha.
		Portland, Me.			
	30.	Alpena.	Rochester.		
July	1.	St. Paul.			
	2.	Buffalo.	Erie.	Marquette.	
	4.	St. Paul.			
	7.	St. Paul.			

uly	9.	Du Luth.	Erie.	Mt. Washington,	St. Paul.
	12.	Alpena.	Boston.	Buffalo.	Burlington.
		Cleveland.	Detroit.	Oswego.	Rochester.
	13.	Alpena.			
	14.	Alpena.	Buffalo.	Du Luth.	Marquette.
		Rochester.			
	15.	Erie.	Pembina.		
	16.	Breckenridge.	Buffalo.	Davenport.	La Crosse.
		Milwaukee.	Pembina.	Rochester.	
	17.	Alpena.			
	18.	Buffalo.	Grand Haven.	Pembina.	
	19.	Pembina.			
	20.	Alpena.	Boston.	Breckenridge.	Buffalo.
		Chicago.	Cleveland.	Davenport.	Detroit.
		Du Luth.	Erie.	Escanaba.	Fargo.
		Ft. Sully.	Grand Haven.	La Crosse.	Marquette.
		Milwaukee.	Omaha.	Pembina.	Portland, Me.
		Rochester.	St. Paul.	Toledo.	Wood's Hole.
		Yankton.			
	21.	Alpena.	Davenport.	Marquette.	Milwaukee.
		Portland, Me.			
	22.	Alpena.	Milwaukee.	Pembina.	Portland, Me.
	23.	Alpena.	Buffalo.	Marquette.	
	25.	Alpena.			
	26.	Alpena.	Grand Haven.		
	28.	Pembina.			
	29.	Alpena.	Pembina.		
	30.	Alpena.	Boston.	Breckenridge.	Pembina.
		Washington.			
Aug.	3.	St. Paul.			
	5.	Boston.	Mt. Washington.		
	8.	Alpena.			
	12.	Alpena.	Chicago.	Dubuque.	Milwaukee.
	16.	Alpena.	Erie.	Omaha.	Oswego.
	17.	Alpena.	Breckenridge.	Du Luth.	Ft. Sully.
		La Crosse.	Oswego.	Rochester.	
	19.	Rochester.			
	20.	Alpena.			
	21.	Dubuque.			
	22.	Boston.	Detroit.	Duluth.	St. Paul.
	23.	Breckenridge.	Erie.	Ft. Sully.	New London.
	24.	Portland, Me.	Rochester.		
		Breckenridge.	Du Luth.	Milwaukee.	St. Paul.
	25.	Alpena.	Du Luth.	Erie.	La Crosse.
	26.	Alpena.	Du Luth.	Erie.	Mt. Washington.
		Rochester.	St. Paul.		
	27.	Alpena.	Breckenridge.	Mt. Washington.	St. Paul.
	28.	Marquette.			
	29.	Alpena.	Du Luth.		

NOTE: From May 31 to June 30, inclusive, the four stations at Mount Washington are numbered Station No. 1, Station No. 2,, Station No. 3, and Station No. 4; the summit being No. 1 and the base No. 4.

PAPER 33.

A.

LEGATION OF AUSTRIA-HUNGARY,
Washington, May 6, 1873.

Mr. SECRETARY OF STATE: At the meeting of meteorologists at Leipsic, a series of questions were propounded for the purpose of bringing about greater uniformity in the meteorological labors of various countries, and greater unanimity in the development of this science, the influence of which upon the interests of navigation and agriculture is indisputable.

As a means of attaining this end, it is proposed to convene a congress of meteorologists, similar to the international assemblies which have met from time to time for the purpose of discussing scientific questions of international interest. It has been agreed that the congress shall commence its session next autumn, at the city of Vienna; and that a committee shall be appointed to take charge of the preparatory labors, said committee to be composed of the following gentlemen: Dr. H. Wild, Dr. C. Bruhns, and Dr. C. Jelinek.

In the fulfillment of this mission, Director Jelinek, on behalf of the committee, has just addressed a series of proposals to the imperial and royal minister of public instruction, asking at the same time, with a view to giving an official character to the projected congress, that these governments, which have hitherto favored the development of meteorological science, may be invited to send delegates, selected from among the heads of their meteorological institutes and the directors of observations having no connection with the State.

In consequence of this request, I have just received instructions from my government, Mr. Secretary of State, to send you ten copies of the report of the discussions which took place at the meeting of the meteorologists at Leipsic, and to invite, in its name, the Government of the United States to be pleased to take part in the projected congress, which will meet on the 1st of September, at Vienna, and which will remain in session for not more than fifteen days.

The encouragement which the Government of the United States has always afforded to the science in question, and the wonderful results which have been obtained by meteorological observations on this continent, renders its participation in the aforesaid congress in the highest degree desirable. I therefore entertain the hope that the Government of the United States will be pleased, in the interest of science and the general welfare, to join, by its representations at this congress, the experience of its meteorological institutes to the observations of the meteorologists of Europe, that thus the sphere of knowledge which is useful to mankind may be extended.

Be pleased to accept, Mr. Secretary of State, the assurance of my very high consideration.

LEDERER.

Hon. HAMILTON FISH,
Secretary of State, Washington.

B.

WAR DEPARTMENT,
Washington City, August 15, 1873.

SIR: Information having been communicated to this Department by the Department of State, that an invitation has been given by the Austrian government to the United States Government to take part in a congress of meterologists, to convene at Vienna on the 1st of September next, and the designation of a delegate to attend that congress having been committed to this Department, you are authorized to proceed to Vienna to represent the United States Government in the proposed congress.

You will inform the congress of the deep interest with which this Department regards whatever may relate to the advancement of systems of storm-warnings; and of its desire that an interchange of international telegraphic weather-reports may be extended as widely as possible.

Very respectfully, your obedient servant,

WM. W. BELKNAP,
Secretary of War.

Gen. ALBERT J. MYER,
Chief Signal-Officer, U. S. A.

C.

MEMORANDUM.

The exchange of simultaneous reports between Russia and the United States will commence with those to be taken on January 1, 1874. The hour of observation to be 7.35 a. m., Washington (local) time. The reports will be exchanged by mail, the packages to be mailed on the 15th and last days of each month. The reports to be as nearly as possible uniform in character and to exhibit at least pressure, temperature, wind, rain, relative humidity, and clouds.

F. C. WILD.

VIENNA, *September* 16.

D.

MEMORANDUM.

The exchange of simultaneous reports between Turkey and the United States will ommence with those to be taken on January 1, 1874. The hour of observation to be .35 a. m., Washington (local) time. The reports will be exchanged by mail. The ackages to be mailed on the 15th and last days of each month. The reports to be as early as possible uniform in character and to exhibit at least pressure, temperature, ind, rain, relative humidity, and clouds.

COUMBARY,
Directeur de l'Observatoire impérial météorologique de Constantinople.

VIENNA, *September* 16, 1873.

PAPER 34.

The following table shows the percentage of verifications of probabilities for each ivision or subdivision named for each month, the monthly percentage of all, the yearly ercentage of each, and the percentage of total verification.

Month.	New England.	Middle States.	South Atlantic.	Lower Lakes.	Eastern Gulf.	Ohio Valley.	Western Gulf.	Upper Lakes.	Northwest.	Monthly percentage for all sections.
1872.										
tober	.79	.81	.79	.80	.77	.76	.77	.76	.76	.7788
ovember	.79	.79	.76	.76	.74	.80	.70	.74	.67	.7500
ecember	.81	.83	.79	.78	.80	.78	.76	.75	.73	.7812
1873.										
nuary	.82	.83	.79	.74	.75	.76	.76	.76	.72	.7700
ebruary	.79	.80	.76	.80	.75	.70	.72	.76	.78	.7622+
arch	.82	.79	.80	.78	.75	.77	.70	.74	.69	.7600
pril	.82	.80	.84	.79	.77	.76	.78	.74	.77	.7850
ay	.79	.79	.79	.75	.77	.74	.72	.73	.77	.7611
ne	.81	.84	.87	.80	.74	.70	......	.75	.72	.7787+
ly	.87	.82	.83	.83	.80	.84	.79	.78	.76	.8133+
ugust	.84	.79	.80	.74	.77	.76	.74	.75	.74	.7700
ptember	.83	.85	.84	.79	.85	.80	......	.77	.77	.8120
early percentage for each section	.8150	.8117+	.7992	.7800	.7716+	.7642	.7440	.7525	.7400	9.3233+ ÷12 = .7769+